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ABSTRACT

This document reports on two projects jointly sponsored by the National Academy of Science (NAS) (USA) and the Consejo Nacional de Investigaciones Cientificas y Tecnicas (CONICET) (ARGENTINA). The first is the creation of a telex network for scientific libraries and documentation centers in Argentina, designed to improve access to, and delivery of, technical information resources within Argentina as well as from the United States and, eventually, from Europe and other countries in Latin America. The second is the development of a computer-based literature information service to provide academic, governmental, and industrial scientists in Argentina with the benefits of modern information handling methods. Chapter II describes the Telex Network Project in terms of its major components: organization, training program for managers and operators, development of hardware and software, network services, programs for network operators and users, and evaluation. It is supported by a set of appendices which provide detailed information on the organization, operation, and evaluation of the network. Chapter III describes the computer-based literature information service. This project was never fully realized under the joint NAS-CONICET programs. However it did lay the groundwork for Argentina's selection as one of two countries to participate in a UNESCO pilot program to establish national and regional selective dissemination of information services. (WBC)

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NAS - CONICET (ARGENTINA) SCIENCE COOPERATION PROGRAM

National Academy of Sciences (USA)

Consejo Nacional de Investigaciónes Científicas y Técnicas (Argentina)

SCIENCE INFORMATION PROGRAMS

I. The Argentine Telex Network for Scientific and Technical Information

[redacted]

Report of Activities
August 15, 1970 - December 31, 1972

and

Brief Summary of Follow-on Activities
January 1, 1973 - Present

Contract AID/csd-2584
Task Order No. 3

Program Sponsors:

Board on Science and Technology for International Development
Commission on International Relations
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and the

Consejo Nacional de Investigaciónes Científicas y Técnicas

in cooperation with

United States Agency for International Development

August 1976

IP004584

The NAS - CONICET (Argentina) Science Cooperation Program was initiated by the National Council for Scientific and Technical Research of Argentina (Consejo Nacional de Investigaciónes Científicas y Técnicas, or CONICET) and the Board on Science and Technology for International Development, Commission on International Relations, National Academy of Sciences (NAS), with support from the United States Agency for International Development in Argentina under Contract AID/csd-2584, Task Order No. 3. This report covers project activities in scientific information systems and exchange, 15 August 1970 through 31 December 1972, and reports briefly on related scientific and technical information activities which have occurred in Argentina since the NAS - CONICET project was terminated.

Preface

The projects described in the following report are part of a series of activities carried out under the auspices of the Science Cooperation Program of the Consjeo Nacional de Investigaciónes Científicas y Técnicas (CONICET), Argentina, and the Board on Science and Technology for International Development, Commission on International Relations, National Academy of Sciences (NAS) of the United States. They stem from recommendations made at a joint Argentine-U.S. Workshop on Science and Technology in Economic Development, held at Mar del Plata, Argentina, July 28 - August 1, 1969, and form one of three* Workshop follow-on programs carried on jointly by CONICET and the NAS.

This report was drafted by Judith A. Werdel, Staff Officer, Committee on International Scientific and Technical Information Programs, Commission on International Relations, NAS, and reviewed by CONICET staff and members of the Argentine-U.S. Panel on Scientific Information. Special thanks must go to Ms. Monica Allmand, Chief, Education and Training Programs, Centro de Documentación Científica, CONICET. As manager of the Argentine telex network during the project, its subsequent evaluation, and the writing of this report, her assistance, enthusiasm and dedication were invaluable.

Recognition and thanks are also due to the members of the Argentine-U.S. Panel (listed in Appendix A of this report) and the many U.S. and Canadian organizations and individuals who participated in the telex network project (listed in Appendices D and F). Most importantly, recognition and thanks are due the Argentine operators and users of the telex network, without whom the project, and the resultant network, ceases to have meaning.

Participation of the NAS, its U.S. panel members and staff, and the publication of this report were made possible through the financial assistance of the U.S. Agency for International Development. Argentina's participation in the projects was supported by CONICET and the many Argentine institutions participating in the telex network.

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* Other projects were carried on in food science and technology, and in groundwater hydrology.

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CHAPTER I

INTRODUCTION

The Argentine National Plan for Development and Security (el Plan Nacional de Desarrollo y Seguridad) in its chapter on science and technology[1] sets as one of its objectives the establishment and effective operation, by 1975, of a national scientific and technical information system to serve the needs of research and education. The National Council for Science and Technology (CONACYT)* has primary policy responsibilities for the development, coordination and implementation of the system,[2] while the National Council for Scientific and Technical Research (CONICET) represents the principal national focus for scientific and technical information activities.

The importance of this objective was noted even earlier, in the summer of 1969, by the participants in a workshop[3] on the use and management of scientific resources in Argentina, sponsored jointly by the U.S. National Academy of Sciences, the Argentine academy, and CONICET. Recognizing that an efficient scientific and technical information infrastructure is a necessary adjunct to the effective utilization of scientific and technical resources for economic development, the workshop convened a special Working Group on Scientific Information to consider the problems and possiblities of such an infrastructure within Argentina, and to make recommendations concerning its future development.

The workshop adopted four recommendations in the areas of scientific and technical information. Three, relating to domestic initiatives within Argentina, were (a) the establishment of an Argentine Committee for Scientific and Technical Communication, which, through studies, surveys and advisory services, would assist in the development of a national policy for scientific information; (b) the establishment within CONICET of a national focus for UNISIST, the Unesco Program of International Cooperation in Scientific and Technical Information; and (c) the establishment of a modernized domestic and international patents information program. A fourth recommendation proposed a NAS - CONICET pilot project directed toward the use of modern communications technology to improve Argentina's access internationally to scientific and technical information.

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* Acronyms in this report which represent Argentine organizations are derived from the Spanish name of the organization.

In considering follow-up activities after the workshop, CONICET gave highest priority to science information projects because (a) they were national in character; (b) they would involve and benefit all the sciences; and (c) they would provide new experiences in a rapidly and fundamentally changing field--that of information technologies and techniques. The United States also viewed such projects favorably, since it was expected they would lead to the development of a national capability in Argentina that might be extended later to other Latin American countries on a regional basis--the latter in keeping with Argentina's position as an "aid-graduate"* and her role as an evolving donor country.

Subsequently in May 1970, following earlier discussions[4] in Buenos Aires between NAS and CONICET representatives, the two organizations agreed on two cooperative projects that would contribute to the development of an Argentine national science information network [Red Nacional de Información Científica (RNIC)] and that could proceed in concert with the purely national studies and programs also recommended by the workshop. The projects were

1. The creation of a telex network for scientific libraries and documentation centers in Argentina, to improve access to and delivery of technical information resources within Argentina as well as from the United States and, eventually, from Europe and other countries in Latin America; and

2. The development of a computer-based literature information service, to provide academic, governmental, and industrial scientists in Argentina with the benefits of modern information-handling methods.

A joint Argentine-U.S. Panel on Scientific Information met in August 1970 to characterize more fully the proposed projects with regard to purpose, goals, organization, technical and financial requirements, potential problems, implementation, and assessment.[5] Subsequently, individual panel members were involved in various aspects of implementing and evaluating projects throughout the contractual period. A list of panel members is included in Appendix A.

The rationale and objectives of each of these projects, the activities associated with their implementation, and some observations, comments, and recommendations about them are summarized in the next two chapters.

Chapter II describes the Telex Network Project in some detail, in the hope that this report might serve as a case study for other organizations contemplating similar activities. A set of appendices provides detailed information on the organization, operation and evaluation of the network, and may be useful to others undertaking similar network development.

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* Technical assistance programs of the U.S. Agency for International Development in Argentina were phased out during 1971-1972.

Chapter III describes the computer-based literature information service. This project was never fully realized under the joint NAS - CONICET program; some of the reasons for this are detailed in Chapter III. However, the project's activities did lay the groundwork for Argentina's selection as one of two countries (India being the other) to participate in a Unesco pilot program to establish national and regional selective dissemination of information services (see Appendix B). This pilot program is now underway, under the auspices of UNISIST, Unesco's program of international cooperation in scientific and technical information; further details can be obtained from the UNISIST Secretariat, Unesco, 7 Place de Fontenoy, 75700 Paris, France, or from the Head, Centro de Documentación Científica, CONICET, Moreno 431/33, Buenos Aires, Argentina.

Chapter IV highlights some scientific and technical information developments subsequent to the NAS - CONICET project, and which in part, implement some of the recommendations of the 1969 workshop.

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CHAPTER II

TELEX NETWORK PROJECT

BACKGROUND AND RATIONALE

The information resources for science and technology in Argentina consist in large measure of the published scientific literature, located in geographically dispersed libraries and documentation centers. The more important of these, in terms of the size and strengths of their collections and the scientific and technological communities they serve, are those libraries and centers associated with the University of Buenos Aires, the ten national universities in the provinces, and a number of government-sponsored national research institutes. These information resources, however, are far from sufficient; it is estimated that Argentina must acquire one third of all the scientific and technical documentation it needs from sources outside the country.

Scientific libraries and documentation centers in Argentina traditionally have cooperated with each other- sharing their resources through interlibrary loans and, with the advent of reprography, through the provision of photocopies. CONICET's Centro de Documentación Científica (Scientific Documentation Center--hereafter referred to as the Centro) plays a pivotal role in such cooperation. It publishes and maintains a union list of scientific and technical periodicals held by Argentine libraries (el Catálogo Colectivo).[1] It provides a clearinghouse function for libraries and centers outside of Buenos Aires, helping them to locate and obtain materials from the capital area. It provides photoreproduction and translation services, and it serves as a national focus for the acquisition of scientific and technical information not available in Argentina. In this latter role, the Centro has established relationships with, and utilizes the services of a number of libraries and documentation centers in Europe, other Latin American countries, and the United States.

In the past, libraries and documentation centers in Argentina have had to rely on the mails for interlibrary communications and transactions. At best, international transactions take from four to six days each; domestic mail service in Argentina may take longer and is less reliable. While many Argentine libraries and individuals utilized the Centro's services for acquiring materials internationally, others found it more expedient to deal with foreign sources directly. Furthermore, many scientists circumvented library channels altogether, using instead their personal contacts with foreign colleagues to acquire the information they needed.

Within the past decade, a number of libraries in the United States and Europe have found the teletypewriter to be an effective communications tool for improving interlibrary loans and other cooperative services. It combines the speed of the telephone with the accuracy and authority of the printed record, which is of great importance to interlibrary communication, particularly when dealing with foreign language transmissions. A flexible communications medium, it provides a round-the-clock, automatic answering service and is unaffected by differences in time zones throughout the world. Its very rapidity establishes a sense of urgency, which often assures that telex messages receive priority handling. The mere availability of a telex communications network has often resulted in the creation of a community of interest among geographically separated libraries and has facilitated the development of cooperative activities among them. As noted by M. Duggan, these networks of communication and cooperation offer libraries "the opportunity to combine materials, services and expertise in order to achieve more than any library can do alone. In this case the whole is greater than the sum of its parts, for each library can offer its particular patron group the total capability of the network, including outside resources not previously available."[2]

The establishment of communication infrastructures as an adjunct, or in some cases as an alternative, to "institution building"--i.e., library development, is receiving increased attention in developing areas as well. As noted by Samuelson[3] in his report to UNISIST* on a proposed information network for scientific, technological, and economic communication in South East Asia:

> The past decade can be categorized as 'the age of institution building.' This has been costly; maintenance (of libraries and documentation centers) becomes a problem, their reach is limited, and their impact is small in a region . . . with millions of people and activities scattered . . . In fact information exists within the region as a whole, but cannot yet be fully utilized due to lack of awareness and suitable communication channels . . . It is hoped that, as recommended, a gradual enhancement of the institutions will occur through national initiatives. More urgent and cost effective would be the improvement of interorganizational, international, and intercontinental transfer of scientific and technoeconomic information, utilizing modern telecommunications. Since the 'information value' per item in science and technology is higher than average, one should not depend on a non-reliable and slow mail system . . .

A number of countries in Latin America have, or are planning to use, telex communications for library and information purposes. In 1969, the Brazilian Institute of Bibliography and Documentation in Rio de Janeiro acquired a telex and initiated the planning and development of a telex network.[4] In Colombia, the plan for the National System of Information includes the creation of a telecommunications network among libraries and documentation centers. In its

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* UNISIST is a nonrepresentational acronym designating Unesco's program of international cooperation in scientific and technical information.

first phase, the plan calls for the utilization of terminals of the national telex network; the establishment of a private network, utilizing leased communications channels, is also being explored.[5] The University of Chile, under a bilateral cooperative program with the University of California at Los Angeles, has utilized telex extensively for requesting bibliographic and research materials from UCLA libraries.[6] It was in the context of these developments, and the recognized benefits of library telecommunication networks, that the Argentine-U.S. Panel on Scientific Information undertook the Telex Network Project.

OBJECTIVES OF THE PROJECT

The first major objective of the project was to establish an effective communication linkage for the developing Argentine National Science Information Network by providing the principal scientific libraries and documentation centers in Argentina with telex equipment, and by developing appropriate network protocols. A second major objective was to extend the capabilities of the network to utilize scientific and technical information resources in the United States and other countries, including those in Latin America.

Expected results of the proposed telex network were many:

1. The processing of inter-library loans (ILLs) between Argentine libraries and documentation centers would be expedited.

2. Access to information resources within Argentina and in other countries, including the United States, would increase.

3. Information needs of the scientific and technical research centers in the provinces, outside of the capital city of Buenos Aires, could be satisfied more frequently and easily.

4. Interdisciplinary research should be facilitated because of increased access to multiple information resources.

5. The system would be used more frequently, by more users (i.e., the number of ILLs can be expected to increase more rapidly than under the present system).

6. Cooperation among member libraries and centers of the network would increase, both in telex network activities and in other areas.

7. Other library and information projects might be accelerated or stimulated--i.e., union lists of serials, collective catalogues, shared cataloging, etc.

8. Other institutions (private universities, other research institutes) not in the telex network at present might wish to join, or benefit from the services of the network.

9. The telex network would provide practical experience on which to make sound judgments about other forms of network communication, i.e., data transmission, telefacsimilie, etc.

The development of a telex network was also responsive to one of the guiding principles of UNISIST--with which Argentina concurred--that the developing countries should establish linkages with existing information systems and services, rather than creating them de novo.

PROJECT DESCRIPTION

The telex network project had seven major components:

1. Organization of the network, including the identification of network nodes within Argentina and cooperating libraries in the United States, and the establishment of contractual agreements between CONICET and the network members and between United States libraries and the NAS, respectively;

2. Selection and training of telex network managers and operators;

3. Assembly of network "hardware" (e.g., negotiations with telecommunications organizations in Argentina and the United States, the acquisition and installation of telex equipment in the network nodes and at the NAS, and the facilitation of communication links between the Argentine network and the United States cooperating libraries);

4. Development of network "software" (e.g., the telex communications code, the manual for the telex network, and mechanisms for periodic communications among and record keeping by members of the network;

5. Development of network services;

6. Education, training, and publicity programs for network operators and users; and

7. Evaluation of network services during the project period, and recommendations for its further development.

The Argentine-U.S. Panel on Scientific Information provided overall policy and technical guidance on specific aspects of the project. The Academy assumed responsibility for

-- Identifying appropriate U.S. libraries and negotiating with them to provide services to the Argentine network;

-- Payment of photocopy and microcopy services rendered by these libraries to the Argentine network during the project period;

-- Developing and programming the training program in the United States and Canada for the telex network manager;

-- Identifying and acquiring appropriate bibliographic tools and other information resources for the network; and

-- Writing and distributing a final report on the project.

Travel and per diem costs of U.S. and Argentine participants on the project were shared jointly by NAS and CONICET. Other management and financial responsibilities relating to the project were assumed by CONICET. Project activities and responsibilities are described in more detail in the following section.

PROJECT ACTIVITIES

Network Organization

Given the existing relationships between CONICET's Centro de Documentación Científica and the libraries and documentation centers both in Argentina and abroad, it appeared logical to develop the proposed telex network in concert with this already existing "network" of contacts and users. Organizational and management responsibilities for the telex network were therefore vested in the Centro, and the initial nodes of the network were established at the libraries of the eight national universities outside of Buenos Aires, with which the Centro already cooperated.

Agreements between CONICET and the Universities

The agreements, first offered to the university rectors for their consideration in December, 1970, included several points. CONICET would:

-- Install telex equipment at the university;

-- Ensure the installation costs and monthly rent of said equipment during the first six months;

-- Grant a 20 percent discount on the Centro's prevailing rates for services requested via the telex network, in order to promote its use;

-- Facilitate the acquisition of bibliographic instruments and copying equipment by the university;

-- Organize a training course for the operators of the network, paying their travel and lodging expenses in Buenos Aires;

-- Pay similar expenses for local managers of the system and for the operators whenever coordination meetings are necessary;

-- Provide the university with reports, documents, information, copies of scientific research material from libraries in the country or abroad;

-- Dictate norms and procedures for the functioning of the system; and

-- Keep current the information from the collective catalog of periodic publications.

The university would:

-- Place the equipment in a library of the university, which would be selected jointly by the university and CONICET;

-- Give priority to influencing the use of the equipment toward the ends pursued by the system;

-- Pay for rent of the equipment for the duration of the agreement, beginning with the 7th month after its installation;

-- Pay the cost of the transmission of messages;

-- Have available an electrostatic copier or the like;

-- Organize the supply to the telex network of copies of research materials existing in other libraries in the city where the quipment is located;

-- Name a local head of the system and an operator of the quipment;

-- Accept the norms and procedures dictated by CONICET: and

-- Supply information to the Centro on a regular basis for the Collective Catalog of Periodical Publications.

The agreements were established for a period of five years, and automatically renewable for a like period.

Agreements with Other Argentine Institutions

Other major scientific and technical institutions in Argentina such as the National Institute of Agricultural Technology, the National Institute of Industrial Technology, the National Atomic Energy Commission, and the several science libraries of the University of Buenos Aires were also invited to join the network, on the same basis as the provincial universities, with the exception that the costs of the telex equipment and service would be borne by these institutions, rather than CONICET. A list of universities and institutions invited to join the network, and the status of their network participation, is included in Appendix C of this report.

As publicity about the network increased, major Argentine Government research institutes and other public and private institutions, while not "formal" members of the network, have begun to contact the Centro and other libraries of the network via telex.

Participation of U.S. Libraries in the Network

As noted earlier in this report, Argentina must acquire at least one third of its requisite scientific and technical information from resources outside the country. Such requests are most frequently for periodical articles in the following subject areas:

Basic Sciences: Biology, chemistry, physics, geology.

Engineering: All branches of engineering, including civil, mechanical, electrical, metallurgical, chemical, and petroleum, and applications of the physical sciences in communications, transportation, and other industries.

Medicine: Including related basic sciences--anatomy, biochemistry, physiology, pharmacology, and pathology, and such medical specialties as cardiology, pediatrics, opthalmology, and radiology.

Agriculture: Especially agricultural engineering, insecticides, fertilizers, and other agricultural chemicals, and agriculturally related industries such as foods and food processing.

The prevalence of photocopy and microcopy services and rapid two-way telecommunications systems have greatly enhanced the acquisition of information internationally. An important component of the Telex Network Project, therefore, was to utilize these technologies to improve the transfer of information between Argentina and the United States.

In contrast to a country like the United Kingdom, the United States does not have a national lending library, and it is doubtful that any one U.S. library would be capable of meeting all of the diverse information needs of the Argentine network in a timely fashion. During the project period, therefore, agreements were negotiated on behalf of CONICET with several U.S. libraries to provide services to the Argentine network. The institutions chosen generally displayed the following characteristics:

1. They were medium-sized, with a good science and technology collection.

2. They utilized telex in normal library operations.

3. They maintained good cooperative relationships with other U.S. libraries.

4. They demonstrated a willingness to devote staff to provide adequate service in fulfilling Argentine requests.

The John Crerar Library in Chicago, Illinois, initiated services to the network in May 1971. Crerar was selected as the first U.S. cooperating library because of its extensive science and technology collection; its past experience in providing services internationally; its cooperative relationships with the Center for Research Libraries and the Linda Hall Library; its participation, as the Midwest Regional Medical Library, in the U.S. medical library telex network;

its National Translations Center; and its willingness to participate in a three-week training program for the Argentine telex manager. By the end of the project period (December 31, 1972), cooperative arrangements had been negotiated with four other U.S. libraries: Georgia Institute of Technology Libraries, Atlanta, Georgia; Linda Hall Library, Kansas City, Missouri; Massachusetts Institute of Technology Libraries, Cambridge, Massachusetts; and the National Agricultural Library, Beltsville, Maryland.

These libraries were asked to do the following:

-- Provide a single photocopy or microcopy of scientific and technical journal articles, or other publications, to the Argentine telex network, upon request;

-- Accept such requests from the network via telex, in the message formats and using the telex codes, journal title abbreviations, and other message protocols adopted by the network;

-- Give priority handling, whenever possible, to requests from the network;

-- Send requested materials to Argentina in the most expeditious way possible, and inform the network via telex of the status of requests not yet satisfied;

-- Provide the network, on a cost-reimbursable basis, with appropriate bibliographic tools that characterize the holdings of the participating library (i.e., union lists, catalogs, etc.)

-- Use other library and information resources in the event that network requests cannot be satisfied locally;

-- Establish fee schedules for photocopy and microcopy services and related searching, handling, and mailing costs that were mutually satisfactory to the National Academy of Sciences, CONICET, and the participating library; and

-- Establish a deposit account for such services, with charges to be paid by the National Academy of Sciences on behalf of CONICET during the project period and by CONICET thereafter.

All communications between the U.S. libraries and the Argentine network were to be handled through the telex service at the Centro de Documentación Científica of CONICET in Buenos Aires.

As can be readily realized from a quick glance at the Directory of Library Reprographic Services in the United States and Canada,[7] there are no standard fees for photocopy, microcopy, and related services among U.S. libraries, and no standard methods for ordering or payment of such services. This applied also to those U.S. libraries cooperating with the network; individual agreements were therefore negotiated with each library based on its standard practices and fees during the project period. Details on these libraries, and the agreements negotiated with them, are included in Appendix D.

Following the project period, the participating libraries all agreed to provide services to the network on a continuing basis, with CONICET assuming responsibilities for the service charges and maintenance of accounts. In addition, the libraries agreed to quarterly payments by CONICET, which greatly ameliorated the bureaucratic, currency-transfer, and foreign-exchange problems associated with the payment of bills outside Argentina.

Using various guides and bibliographic tools, such as the directory mentioned above, the network now also contacts other U.S. libraries via telex, as the need arises.

Participation of Other Countries in the Network

During the project period, efforts were undertaken to investigate and stimulate cooperative agreements between the network and institutions in other countries. Building on already existing relationships, the Centro proposed cooperative agreements with institutions in Australia, Belgium, Canada, Denmark, France, Hungary, Ireland, India, Spain, and Sweden. To encourage cooperation with its Latin American neighbors, reports on the Argentine network were given at annual meetings of the Latin American Commission of the International Federation for Documentation in Lima (1971) and Mexico City (1972). Detailed information on network development and procedures was also provided to institutions in Brazil, Chile, Colombia, Mexico, Peru, and Uruguay. At the invitation of the Mexican National Council for Science and Technology (CONACYT), the manager of the Argentelex network spent two weeks in Mexico, in December 1972, for discussions of a Mexican national telex network for scientific and technical information with CONACYT staff, and to give a training course to a larger group of Mexican participants. The possibility of a telex linkage between the Argentine telex network and the Pan American Health Organization's Regional Medical Library in São Paulo, Brazil, was also explored. Institutions contacted by the network are listed in Appendix E.

While many of these institutions agreed in principle to cooperate with the Argentine network, some on a non-paying basis, others on a quid pro quo basis, a number of practical problems precluded the establishment of agreements during the project period. Among them were lack of telex equipment, currency exchange problems, and factors such as institutional unwillingness to accept procedures used by the Argentine network. Some of these problems are being resolved, and the network is becoming truly international, rather than national, in character.

Selection and Training of the Telex Network Managers and Other Personnel

Manager, National Telex Network

As the national focus for the development of the telex network, the Centro was expected to provide an additional staff person to serve as overall manager (Jefe, Servicio Telex) of the national network and the international interfaces

that the network was expected to develop. The Argentine-U.S. Panel had recommended that this person be a good reference librarian, have some management experience, and have a good working relationship with librarians throughout Argentina. The manager's responsibilities were to include:

-- Implementing agreements with, and maintaining contact with, the Argentine national telecommunications enterprise;

-- Fostering cooperation among all the institutions involved in the network;

-- Guiding the development of procedures, standards, and protocols to be used by the network;

-- Training the system's operators and local managers;

-- Developing a public relations/educational campaign to encourage use of the system;

-- Establishing management procedures for the network (e.g., mechanisms for policy review, statistical reporting, evaluation of services, etc.); and

-- Supervising the operation of the head telex service at the Centro in Buenos Aires.

In preparation for these tasks, the manager spent a three-week training period at selected libraries in the United States and Canada in February 1971, during which she gained firsthand experience in the technical and managerial aspects of organizing and operating network activities. She was also introduced to the services of several libraries, documentation centers, and other U.S. and Canadian organizations of potential import to the emerging Argentine network.

The National Science Library of Canada (NSL) was specifically requested by the Academy to participate in the training program; because of its role in the development of a Canadian national scientific and technical information system, and the nature of its services, the NSL provided a more appropriate model for the developing Argentine system than any existing U.S. organization. This contact also proved beneficial in the light of the present cooperative program between the Centro and the National Science Library under the auspices of the UNISIST program (see Chapter I and Appendix B). The institutions visited, and the nature of the experience during the training period, are outlined in Appendix F.

Managers of the Telex Nodes

The agreements between CONICET and the participating institutions in the network called for the appointment of a telex manager (Jefe Local) and a telex operator for each telex operation. (Persons appointed in this capacity are listed in Appendix C.) The Argentine-U.S. Panel had recommended that all the

telex managers meet frequently on a regular basis to develop collectively network procedures, standards, and training programs; to discuss mutual problems; to propose modifications in activities; and to assess the services of the network.

Following her training program in the United States and Canada, the national manager developed draft protocols and procedures for the network (described in detail in the following sections of this chapter). The telex managers met together for the first time in Buenos Aires for a two-day meeting in March 1971, at which time the general background, purposes, and organization of the telex network were reviewed, and the proposed protocols and procedures discussed and adopted. They also visited the offices of the Argentine Empresa Nacional de Telecommunicaciones (ENTel) where they received instructions in national and international telecommunication procedures, and in the operation and maintenance of telex equipment. Upon returning to their institutions, and following installation of telex equipment in their libraries, the local managers then trained their local telex operators in these procedures.

In order to communicate with the local managers on a regular basis (i.e., to provide information on the network and to resolve problems and answer questions affecting the whole network), the national manager initiated a series of Periodic Memos of Understanding, sent several times a month via telex. This mechanism in fact now substitutes in large measure for the recommended meetings of the managers. While they try to meet at least once a year, more frequent meetings are impossible because of financial constraints on travel and severe shortages of library personnel (participating libraries could not afford frequent absences of their staff for periods of 2 - 3 days).

Network Hardware

National and International Communications Linkages via ENTel and International Carriers

The telecommunications industry in Argentina, fully nationalized in September 1970,[8] is under the jurisdiction of ENTel. At the start of the project, national telex service was available to most of the major cities in Argentina. ENTel's teletypewriter equipment was comparable to that in the United States (with automatic sending, receiving, and off-line-message-preparation capabilities) and its operation could be readily learned by a good typist. International telex service between Argentina and other countries was facilitated by the commercial communications satellite system and ENTel's satellite ground station at Balcarce.

Computer-controlled communication systems of the international and U.S. common carriers made it possible for telex messages from Argentina to be received by the two U.S. telex systems: the Bell System's TWX service (used primarily by libraries) and Western Union's Telex service. (TWX has now been acquired by Western Union, and the two U.S. systems are now being integrated.) Commercially available telephone lines were used for the network, because the size of the expected network traffic in Argentina and with the United States did not warrant the use or expense of leased lines.

Acquisition and Installation of Equipment
in Argentina and the United States

The Argentine-U.S. Panel recognized that the telex equipment, once installed in a university, would be available for purposes other than facilitating the transfer of scientific and technical information. The panel therefore strongly recommended, and it became a condition of the agreement with the universities, that the equipment be installed in the central library, science library, or documentation center, in order to ensure adequate control and supervision of its operation.

There was some slippage in the timetable for activating the total network. Because of increased demands of users throughout Argentina, there were shortages of equipment and communication lines, resulting in delays in installing telex machines and assigning communication lines to some universities. In one instance, pending the installation of its own equipment, the Universidad Nacional de Cuyo in Mendoza used the private, leased-line telex network of the neighboring Instituto Nacional de Vitivinicultura. The Instituto network, with outlets in Mendoza, San Luis, San Juan, and Buenos Aires, provided a link between the university and the Argentine telex network, and benefited from the latter as well.

Costs for telex installation and domestic service at the time of the project period are included in Appendix G. International telex rates between Argentina and other countries, as of August 1971, are included in Appendix H. The availability of telex facilities throughout Argentina is shown in Appendix I.

The U.S. participating libraries were already equipped with telex and familiar with communication procedures with the United States, but in some cases, they had to learn the intricacies of international communication--reflecting, somewhat, the degree of self-sufficiency (and insularity) of U.S. information resources. The acquisition of telex by the Academy during the project also facilitated communication with CONICET in Buenos Aires on the science information projects, as well as on other science cooperation activities.

Network Software

Codes, Formats, and Standards

In planning the telex network, the Argentine-U.S. Panel originally suggested that the network adopt the set of interlibrary telecommunication procedures used by the U.S. medical library network.[9] These procedures, based on the standard American Library Association Interlibrary Loan Policy, required detailed information and a specific format for each telex request, which, if followed, would have proven too costly to the Argentine telex network, particularly for use on an international basis.*

* Domestic TWX charges in the United States ranged from a few cents for local transmissions to 70 cents for coast-to-coast transmission of 100 words per minute; these charges were competitive with other forms of domestic communication. As noted in Appendix G, telex transmission costs between the United States and Argentina are $3.00 per minute, at 66 words per minute.

It was therefore recommended that the network develop its own format, using two existing international codes:

1. The IFLA-IATUL International Telecode for Libraries,[10] a series of three-letter codes representing common messages employed in interlibrary cooperation, and used extensively among European libraries;[11] and

2. The International List of Periodical Title Word Abbreviations.[12]

The IFLA codes were augmented by additional sets of three-letter codes for the participating Argentine libraries, originators of requests, types of messages, and reasons for delay in responding to requests. Examples of these codes are shown in Appendix J.

The format for telex messages consists of a combination of the Telecode symbols, indicating the service required, or status of the request, request number for each item, assigned by CONICET, and bibliographic details on the item being requested, including:

1. Abbreviated title (using International List. . .);

2. Volume, (year), number, first page - last page; [i.e., 64 (1959) 2 78-9];

3. First Author--last name first, and initials; and

4. First few words of title.

In some instances, full bibliographic information is given for particularly difficult or unusual citations, in order to avoid errors in transmission or interpretation. Examples of messages between the Centro and John Crerar library, and a comparison with the formats used by the U.S. medical library network, are included in Appendix K.

All participating U.S. libraries agreed to use this abbreviated telex communications format. So far as we know, this marks the first time that U.S. libraries have used these abbreviated and international codes extensively for interlibrary communications, thus laying the groundwork for further, "relatively" inexpensive rapid communications between these libraries and libraries in other developing countries.*

* As a result of Georgia Institute of Technology's participation in the Argentine network, a similar cooperative arrangement between Georgia Tech and the Simón Bolívar University in Caracas, Venezuela, including the use of the telex formats and protocols developed by the Argentine network, is presently in operation. (Dr. Vladimir Slamecka, Georgia Institute of Technology, private communication, 1975).

Record Keeping

Procedures for gathering and reporting statistics on telex network use (both domestically and internationally) were developed by the telex network manager, drawing heavily on the experience and procedures of the Kentucky-Ohio-Michigan Regional Medical Library,[13] which she visited during her training program in the United States, and those reported by the Minnesota Interlibrary Teletype Experiment.[14] Statistics on regional, national, and international telex traffic are collected and reported on a monthly basis. Examples of the data-gathering forms and the kinds of data collected, are included in Appendix L.

Communications Among Network Members: Operations Manual and Periodic Memos of Understanding

One of the first responsibilities of the telex network manager upon her return to Argentina was the preparation of an operations manual in Spanish for the network,[15] which incorporated general information on the network; administrative procedures; protocols for network use; instructions for message formats, codes, and other standards to be used for specific kinds of requests; instructions and forms for the collection and maintenance of statistics, and details on use of the network for other purposes, such as maintenance of the Union Catalogue of Scientific and Technical Periodicals. Bird's manual[16] was useful as a model for the Argentine manual. The norms established by the manual are kept current through periodic memos of understanding or Circulars, issued several times a month. These memos are generally sent to the participating libraries via telex, and include, in addition to procedural changes for the manual, all kinds of information of interest to the network--e.g., notices of transmission rate increases; suppliers, prices, and specifications of consumable telex equipment such as paper, paper tape, etc. An abbreviated version of the Manual de Operaciones Telex, and examples of the Circulars, are included in Appendix M.

Bibliographic Aids for the Network

The success of any information resource-sharing network is particularly dependent on the network knowing 1) where requisite information resources are that can be tapped by the network; and 2) how to acquire them in the most cost-effective manner. The panel therefore recommended, as an important component of the Telex Network Project, the further development and acquisition of bibliographic tools that would assist the Argentines in identifying and acquiring information resources both within Argentina and abroad. Such tools can be categorized as follows:

Location Tools--used to identify at what institution (library, documentation center, etc.) a particular publication (periodical title, patent series, conference proceedings, etc.) might be found, and to assess the collective holdings of such institutions (of particular importance when selecting new institutions with which to establish network agreements). Included in this category are national and institutional union catalogues, lists of serials, and related publications.

Verification Tools--used to assure the accuracy of bibliographic information about the document being requested (e.g. title, author, journal, etc.). The accuracy of bibliographic information becomes increasingly important as the costs related to the use of that information increase (e.g., incorrect messages sent via international telex still cost $3.00 per minute to transmit, and useless documents received as a result of incorrect bibliographic information must still be paid for at prevailing rates). Included in this category are abstracting and indexing publications and services, special bibliographies, and codes and standards for bibliographic citations and abbreviations (c.f. reference 12 of this chapter). Union lists are also often used as verification tools.

Access and Acquisition Tools--used to identify services provided by libraries and documentation centers (e.g., loan, searching, micrographic services); the costs of such services; and the procedures to be followed in acquiring them. Included in this category are directories of institutions and services (c.f. reference 7).

The Catálogo Colectivo de Publicaciones Periódicas Existentes en Bibliotecas Científicas y Técnicas Argentinas, published by the Centro in 1962 (c.f. reference 1) was identified as the most important bibliographic tool for the Argentine network; the panel urged that high priority be given to the Centro's efforts to update this tool in machine-readable form. Transmission of Catálogo information to the Centro via telex was initiated during the project period, thus speeding up the data gathering, and a two-volume supplement to the 1962 Catálogo was published by the Centro in late 1972.[17]

In addition to the Catálogo Colectivo, the Centro had developed a collection of union lists of serials from other countries, and had inventoried the scientific and technical abstracting and indexing services available in the participating libraries in the network (Appendix N). During the project period, a number of additional bibliographic tools were purchased for the Argentine network to increase its awareness and accessibility to U.S. information resources (Appendix O).

Network Services

The development of the telex network was viewed as an integral part of the activities of the Centro and a logical extension of the services that the Centro already provided. The relationships between the telex network and these other services was viewed as symbiotic; the telex network could draw upon and further develop them to meet its own requirements, rather than create them anew (e.g., reprographic services, the union catalog, existing interlibrary loan and ordering procedures, established fees and billing procedures, and existing linkages with users--institutional and personal). In turn, the telex network eas expected to be instrumental in improving the other services of the Centro.

Operational Aspects of Telex Network

The details of processing a request for information via the telex network are described here in some detail, to illustrate the "cascading" effect of the network: The user presents his request for information to one of the participa-

ting libraries in the telex network, using a special form designed by the Centro. Users are encouraged to use the participating library within their region rather than contacting the Centro directly. Users in provinces without a network library node submit their requests directly to the Centro. The library receiving the request determines whether the request can be met locally; if it cannot, the request is telexed to the Centro. The Centro, using the Catálogo Colectivo and other bibliographic tools, determines whether the requested material is available nationally, either in the provinces or in the more than 50 libraries in the Buenos Aires metropolitan area. If the material is available in the provinces, the Centro either acquires a photocopy or microcopy of the material and forwards it to the requesting library or directly to the user, or informs the requesting library directly of the location of the material. If the material is in the Buenos Aires metropolitan area, the Centro borrows the material, makes a photocopy or microcopy, and sends it to the requesting library or the user.

Telex requests may be transmitted to the Centro on a 24-hour basis. The Centro's telex service is staffed from 12 noon - 8 p.m. (9 a.m. - 5 p.m. U.S./E.S.T.). In the event that requests cannot be met nationally, they are retransmitted to the United States via telex at the end of the same day as received.

Telex requests to participating U.S. libraries are received late in the afternoon (thus avoiding interference with U.S. domestic telex communications) and are dealt with the following morning. Requests from Argentina are generally given the same kind of priority treatment by the U.S. libraries as they accord their other telex requests. If the material requested is in the library's holdings, it is processed accordingly and sent to the Centro via airmail; if the material is unavailable, the U.S. library gives a status report (see Appendix J) to the Centro. The turnaround time for fulfilling a request (from the time the message is received by the U.S. library to the time the document is received by the Centro) averages 5 - 7 days.

Forms of Materials Requested via the Telex Network

Materials are acquired in both photocopy and 35 mm microfilm form. The format chosen by the network for any one request is dependent on several factors: the ability of the source institution to provide material in different formats; the ability of receiving institutions to use material in certain formats; and the relative costs of each format (including material costs, service and handling costs, and transmittal costs). Constraints of U.S. participating libraries in supplying certain materials in specific formats have already been outlined in Appendix D. During the project period, only four of the Argentine library network nodes (Rosario, Córdoba, Santa Fé, and the Centro) had the capability to provide microfilm copies as well as photocopies to the network.

Charges for Material and Services Provided by the Network

In each case, the user (whether personal or institutional) is charged for the cost of the material (photocopy or microfilm) at the prevailing rate established by the U.S. or Argentine institution that provides the copy. During the

project period, the following exceptions were made in order to promote the telex service: the Centro offered a 20 percent discount on its services during the first 12 months of operation of the network, if they were requested via telex; the costs of materials provided to the network by U.S. libraries were subsidized by the project and were not passed along to the users. At some of the library network nodes, users were also charged for telex communications costs. Examples of these costs are shown in Appendices G, H, and Q.

As in the United States, there is no standard charge for xerox or microfilm copies among the Argentine institutions participating in the network; rates differ because of availability of different equipment, different institutional approaches to cost accounting and recovery, etc. Because of the volume of reprographic services it undertakes, the Centro's services tend to be less costly than the other nodes in the network.

Other Uses of the Network

As mentioned previously, the telex network was expected to be used for, and to improve other services of the Centro, including:

Development and Use of the Catálogo Colectivo--Participating libraries use the network to request information from the union catalog of scientific and technical periodicals at the Centro. These requests are given first priority, and answered immediately. These libraries also receive inquiries and contribute information to the Catálogo on their periodical holdings. They also encourage other libraries in their region to send such information to the Catálogo thus broadening the data-gathering net.

Translation and Reference Services--Requests for status reports on translations and selected reference questions are also accepted via telex. The latter include inquiries to CONICET about national statistics on science and technology, and requests for information from the Directory of Scientific and Technical Institutions in Argentina maintained by the Centro. Other reference questions are referred to appropriate institutions in Buenos Aires.

Communications with Participating Institutions, User Communities--The network is used increasingly as a rapid, efficient, and trustworthy communications medium between the staff of the Centro and the staffs of network members, sister institutions in other countries, and directly with users. The importance of this cannot be overstated in a country where the national postal service is often unreliable and slow. Using the network in this manner has also contributed to the conservation of scarce human resources by encouraging brevity and clarity in communications, and by eliminating the intermediate secretarial and mailing tasks required with more traditional means of communication. Finally, the use of the telex for general communication purposes provides the opportunity for immediate, human response and interaction, of particular importance when considering the human aspects of network development.

Relations with Users

Nature of Users

Prior to the installation of the telex network, the Centro had already established certain patterns in dealing with its users. It provided information services directly to individual scientists and engineers (researchers, professors, and students); to research groups (e.g., in university faculties and research laboratories); and to libraries within institutions. Its users were of two types: those individuals, research groups or institutions that requested services on a frequent and continuing basis (habituales), and those that requested services infrequently (no habituales). The former were accorded "charge account" privileges and were billed by the Centro every two months. Included in this group were the libraries at the national universities that became nodes in the telex network. Infrequent users were billed by the Centro for each service rendered.

When the telex service started, the Centro had 350 habituales accounts throughout the country. No data was available on the total number of users these accounts were serving, but it is safe to assume that they represented effective individual and institutional "technological gatekeepers"* and that the actual number of users served was much greater.

Promotion of the Telex Service to Users

A major reason for developing the telex network was to improve the delivery of information to Argentine scientists and engineers, both by speeding up delivery of information and by improving access to information resources and services, both nationally and internationally. For these benefits to accrue, however, the telex network must be used. Several promotional activities, therefore, were undertaken by the Centro and the telex network managers to promote the use of the network. In particular, the promotional efforts were directed at achieving the following:

-- Encouraging present users to use the telex network, thereby improving the quality of service being provided to them;

-- Attracting and developing "new"** users of information by offering them a new and timely service; and

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* Several studies have shown that a small number of individuals within an organization, faculty department, or research team are responsible for keeping the members of his group informed of pertinent scientific and technical information. These "technological gatekeepers" are generally well integrated both into external networks of information resources (both nationally and internationally), as well as the internal network of users within his group, to which the information can be delivered.

**i.e., capturing those scientists and engineers in Argentina who are more accustomed to requesting information through personal contact with fellow scientists and engineers in Argentina and abroad than they are in utilizing their own local and national information resources.

-- Redistributing, in an efficient and equitable manner, user access and service points throughout the country (e.g., away from metropolitan Buenos Aires and to the provinces).

Promotional activities of the telex service in Argentina included press coverage at its inauguration by local and national newspapers (e.g., La Prensa, La Nación, and Clarín); local and national radio and television coverage (e.g., a local TV program on university activities in Tucumán highlighted the telex network service). Circulars describing the telex services, its advantages, and the procedures for utilizing it were distributed on a regular basis to current and potential users by the Centro and the participating libraries (see Appendix D). Announcements of the service have also appeared in professional library, documentation, and scientific journals published in Argentina and other countries, and by international organizations. Since October 1972, news about the telex network, as well as other information services of the Centro, has been published regularly in CONICET's bimonthly newsletter. Finally, both formal and informal presentations on the Argentine Telex Network Project have been given at a number of regional (Latin American) and international meetings.[18]

Network Evaluation

An evaluation of telex network activities during the project period was carried out to determine if, and how well, the network's objectives and anticipated results had been achieved. Statistics on telex network traffic were tabulated, as were the costs associated with the project. An examination was also conducted of the impact of the network on the number and sources of requests, within Argentina, for information services; the growth in the use of telex as a communications medium; the quantity and quality of national and international services provided to the network; changes in use patterns; changes in sources of information; and users' responses to information services. These findings are detailed below.

EVALUATION OF THE TELEX NETWORK: FINDINGS AND CONCLUSIONS

In carrying out the evaluation, both quantitative and qualitative measures and judgments were used. Perhaps a word or two should be said at this juncture about the development of this data. The conceptualization, design, and implementation of data collection for statistical and evaluative purposes generally are costly and time-consuming tasks, whatever program they relate to. In any program there is usually a dynamic competition for the use of scarce human and financial resources between the program activities themselves and the assessment of those activities. When hard choices must be made, the former usually wins out.

All of these conditions applied in the case of the Argentine telex network. Prior to the establishment of the network, documentation of data about the quantity and kinds of information flow and information users within Argentina, particularly involving the provincial libraries, was unavailable. Therefore, in many

cases, baselines from which to measure changes brought about by the network do not exist. The telex network did introduce more rigorous data collection techniques (see Appendix L), but at the same time tried not to overburden telex network managers, who saw as their primary responsibilities providing services to their users. Thus, during the project period, efforts were concentrated on, and limited to, collecting that data which would be most useful in measuring the changes brought about by the introduction and continuation of the telex network. Many of these data are tablulated in Appendices Q, R, and S.

Costs Associated with the Project

Cost data on the telex network project are tabulated in Appendices F, G, and Q. The overall costs of the project during the period August 1970 - December 1972, exclusive of staff and indirect costs in the United States and Argentina, and of domestic postage and photocopy costs in Argentina (for which no figures were available) amounted to $26,492. These costs were shared equitably by the United States and Argentina, and are summarized in Table Q-1, Appendix Q. The average costs (including telex, copying, service and handling, and postage costs) per item acquired from each of the participating U.S. libraries are detailed in Table Q-2. They range from a low of $2.01 average cost per item from the National Agricultural Library to a high of $10.78 from the Massachusetts Institute of Technology. The average cost per item of all items acquired from U.S. libraries during the project period was $3.53. Unit costs associated with acquiring a 10-page article from the United States, as compared to acquiring one within Argentina, or from France, England, or Canada are shown in Table Q-3.

Impact of the Network on Patterns of Service and Use

Requests for Information: Changes in Quantity and Patterns

Prior to the installation of the telex network, the total number of requests for information received by the Centro from within Argentina was relatively constant (5,844 in 1969; 5,912 in 1970). In 1972, the first year all telex nodes were in operation within Argentina, requests totalled 12,147, more than double the number of requests for 1970 (see Table R-1).* Between 1970 and 1972, the number of requests received by the Centro from the telex nodes in the provinces increased by 75 percent; those from Buenos Aires and the capital area almost doubled (95 percent); and those from other parts of the country quadrupled (see Table R-2). The telex network thus not only resulted in a greater overall demand within Argentina for information services, but also stimulated previously "dormant" areas to seek such services, and resulted in a more equitable distribution of information requests throughout the country (see Tables R-2 and R-3).

* The total number of requests received by the Centro increased to 14,769 in 1973; transfer of the costs of information obtained from the United States (which were subsidized during the project period) to the network apparently had no adverse effects on the momentum and growth of network use during the following year.

Requests for information among network members in the provinces, and from the Centro to the provinces, also increased during the project period (see Table R-4). The speed and low domestic communication costs of the network encouraged this attempt to meet information demands locally and regionally, rather than turning immediately to information resources in the capital or internationally. This, in turn, facilitated network decentralization by redistributing requests (and resultant workloads) among the network members, rather than concentrating them at the Centro.

During the project period, the network had no noticeable impact on the number of requests for information received by the Centro from libraries and information centers outside the country, whether from other countries in Latin America, the United States, or elsewhere (see Table R-5). This probably can be attributed to the high international telecommunications cost ($3.00 per minute, with a three-minute minimum for countries in Latin America), and unfamiliarity with the network and information resources within Argentina relative to other available sources.

During the project period, the number of requests transmitted via telex increased substantially--from 2,165 in 1971 to 8,438 in 1972--and continued to increase the following year (9,162 in 1973). Details on the patterns of telex traffic during the project period are shown in Table R-6. The types of information requested via telex during the project period are shown in Table R-7.

Sources of Information: Changes in Quantity and Patterns of Use

Use of National Information Resources. During the project period (1970 - 1972), the number of information items acquired by the Centro from all domestic information resources doubled (see Table R-8), but in terms of percentage of total items acquired, those obtained within Argentina dropped slightly--from 70.2 percent in 1970 to 65 percent in 1972 (see probable reasons listed below). However, the percentage of items acquired from telex network members in the provinces doubled during the project period (2.9 percent in 1970; 5.7 percent in 1972), a further indication that the network was contributing to the decentralization and redistribution of information services and workloads throughout the country (see Table R-9).

No figures are available on the increase, if any, during the project period, in the number of information items acquired by the telex network members from their own local resources. However, since the increase in growth of requests from the telex nodes to the Centro (74 percent) was less than the growth of requests from either the capital area (95 percent) or other parts of the country (300 percent), we might assume that the telex nodes increasingly were satisfying requests locally, without recourse to services of the Centro (see Table R-2).

Use of International Information Resources. As the network became fully operational, international information resources were used more frequently to provide information resources (29.8 percent in 1970; 34.9 percent in 1972; see Table R-9). This increase may be attributed to either or both of the following:

1. Users were encouraged, either because of the subsidy for information from the United States during the project period, or the probability of faster delivery, to request information that must be acquired from abroad; and

2. Users who formerly used other channels for international information (i.e., colleagues abroad) were now using the network.

At the end of 1972, the United States supplied 31.8 percent of the information items received by the network from international sources, up from 10.2 percent in 1970; percentages of information supplied to the network by other countries, particularly France and the United Kingdom, decreased accordingly (see Table R-10). The actual number of items supplied to the network from the United States increased from 168 items in 1970 to 1,303 items in 1972; a sevenfold increase (see Table R-11). During 1972, the network acquired information from ten United States institutions, including the five institutions with whom agreements were established during the project period, and from eighteen institutions in other countries.

Of the requests sent to international information sources via telex, 70 percent were filled. The "fill-rate" for each participating U.S. library is shown in Table R-12; it ranges from a low of 65 percent for the National Agricultural Library to a high of 82 percent for the Georgia Institute of Technology.

Given the above data, it is obvious that no single institution in the United States, or in any other country, can meet Argentina's external information needs.

Data is not available to measure the use of United States information resources relative to other international information resources after the project period. However, it may be assumed that the relationships and level of service between the U.S. institutions and the network established during the project period will continue until such time as agreements with institutions in other countries are established that provide for equivalent services at competitive prices. As far as we know, such an agreement exists at present only with the National Science Library in Canada.*

Changes in Quality of Information Services

Speed, Efficiency and Accuracy of Services. The speed of services to users increased dramatically with the installation of the telex network. Average "turn-around" times** for requests from the provinces, serviced by telex as

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* It should be noted that the United States, in "competing" favorably with other countries as the provider of information resources to the Argentine network, is also competing with these same countries for payments which contribute to a favorable balance of trade.

**"turn-around" time is the total amount of time from the dispatch of the request by the participating library, to receipt of the material, or negative response, by that same library or the user who requested the material.

compared with those serviced by mail, were considerably reduced, as shown below (see also Table R-14 for detailed breakdown of times).

Information Received From:	Average Turn-Around Time for Requests Via Mail	Average Turn-Around Time for Requests Via Telex	% Increase in Speed of Service
Buenos Aires & Capital Area	17.5 days	9.5 days	+ 84%
Network Members in Provinces	49 days	15 days	+ 227%
Libraries in the United States	35 days	14 days	+ 150%
Negative Responses* from:			
Buenos Aires	17.5 days	2 days	+ 775%
Network Members in Provinces	49 days	2 days	+ 2,350%
Libraries in the United States	28 days	4 days	+ 600%

These increases were due not only to decreases in communication times but to other actions that were instigated as part of, or stimulated because of, the telex network. These included:

1. Priority handling, by both Argentine libraries and U.S. libraries, of requests received by telex;

2. Elimination of letter requests (more time-consuming to prepare than telex messages);

3. Improved accounting and billing procedures adopted by the Centro, which allowed material to be dispatched more quickly (e.g., the Centro doubled its accounting and billing staff); and

4. Increased pickup of materials by the Centro from libraries in Buenos Aires (i.e., from twice weekly to four or five times weekly).

* "Negative responses" are indications, for whatever reason, that the material cannot be supplied. The more rapidly negative replies are received, the more rapidly material may be sought from a different source, or the requester informed of its unavailability.

In addition, the possibility of requests for information and negative responses going astray or undelivered (a not-infrequent occurrence in Argentina's domestic mail system) was eliminated by sending these messages via telex.

The network did not noticeably affect the "fill rate" of requests received by the Centro during the project period (see Table R-1). However, by establishing rigorous bibliographic protocols, the network helped to improve the bibliographic consciousness and competence both among library staff members and users.* As a result, bibliographic accuracy improved noticeably during the project period, which, in turn, increased the efficiency and accuracy of the services provided by the libraries. Staff members in network libraries became more sensitive to the needs of the public, and were able to provide more services locally, simply because the right bibliographic questions were being asked and answered.

Access to Information Resources. Users' access to information resources improved in several ways. In the first instance, the period of time during which users (both individual and institutional) could access national information services increased from eight to twelve hours daily. International information resources could also be accessed at any time, without regard to distances or differences in time zones.

Secondly, network members became better informed about information holdings and resources of institutions in their region and of other members in the network. On the one hand, the network facilitated the expansion and updating of information location tools such as the Catálogo Colectivo; on the other, network procedures encouraged users to become more familiar with local resources.** Information exchange relationships that did not exist previously have now been established among these institutions (see Table R-4), thereby providing access to information on a local and regional basis.

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* Requests received by the Centro that did not follow network standards, or were bibliographically incorrect for other reasons, were returned to the requesting library for correction. The number of returned requests dropped greatly during the project period, but were not eliminated entirely; at the end of 1972, the Centro manager was still returning on the average of two requests a day. Users were asked, and soon learned, to automatically provide detailed bibliographic and source information on the references they requested, in order to acquire the material as expeditiously as possible.

**Requests which can be met by local information resources or other nearby members of the network are returned, unfulfilled, to the requesting library by the Centro, with union catalog notations as to where the information may be found. As a result, network members now first consult the union catalog via telex for location information, rather than automatically ordering the material through the Centro. Catalog consultations rose from 45 in 1971 to 382 in 1972--a 750 percent increase. This procedure has several positive spin-offs; it encourages the use and development of the Catálogo Colectivo as a truly "national" bibliographic tool; it contributes to the decentralization of information services; and it allows users' needs to be met more rapidly if the mat[illegible] obtained locally.

Thirdly, by virtue of the network's links with U.S. libraries, users in Argentina now have more effective access to specialized kinds of information resources that are not readily available in Argentina, including in particular current issues of non-Argentine periodicals*; publications in and translations from languages such as Russian, Eastern European languages and Japanese; proceedings of conferences; transactions of scientific and technical organizations; theses; U.S. patents and government reports; and information in the social sciences and humanities. The Centro also uses telex messages as a means of communication with international specialized organizations (e.g., Unesco, UNIDO, etc.), as well as with sister institutions in other countries (e.g., Brazil, Canada, Hungary, Mexico, and the United States).

Impact of the Telex Network on the User;
Appraisal by the Users of Network Services

As noted previously, the annual number of user requests for information doubled during the project period (Table R-1). Users, particularly those outside the Buenos Aires area, are better served than they were before the initiation of the network (Tables R-2,3). With the initiation of the network, the Centro also began acquiring social sciences and humanities information, thus improving information services to professionals in these disciplines as well. As the network developed and publicity about it increased, various institutions, in addition to network members, began tapping network services. Such organizations included government and private research institutions, other government agencies, industrial corporations, other educational institutions, and private individuals.

The number of individual users served, either prior to or after the installation of the telex network, is difficult to determine; the practice of billing both individuals and institutions (which serve several individuals), and the existence of "information getekeepers" and "invisible colleges," precludes the collection of any reliable data. However, data collected by the members of the network do show an increase, between 1971 and 1972, in numbers of users (institutional and individual) being serviced, as measured by an increase in "habituales" accounts (+ 63 percent) and individual billings for services (+ 133 percent; see Table R-13).

The impact of the telex network on the individual scientist/engineer or on the advancement of science and technology in Argentina is also difficult to determine objectively. This is due both to a lack of adequate base line data and the difficulty, during the project period, of developing new data on the size, professional status, occupation and/or major research interest, and institutional affiliations of the user populations being served. If, however, we accept the premise that a majority of users of network services are scientific and technological "information gatekeepers"--if you will, members of Argentina's

* Most periodicals from abroad are shipped by surface mail; current issues of U.S. journals therefore take several months longer to appear in Argentine library collections than in U.S. libraries.

scientific and technological "elite"--then an increase and improvement of information services responsive to their needs should advance Argentina's scientific and technological development accordingly.

As part of the evaluation process, efforts were made to gather opinions about network services from a cross section of its users. It should be remembered that many of these users must share in the cost of the information they obtain from the network, either individually or through their research or institutional budgets. A sampling of these responses, the great majority of which were favorable, is included in Appendix S.

In considering these responses, it also should be noted that one characteristic of a good information service is its unobtrusiveness. However, the more unobtrusive the service, the less likely a user is to remember details about it. Thus, many users may be unaware of improvements made in information services (particularly if they are new users) or even changes in their own habits as a result of these improvements. However, they are quick to recognize a deterioration in service, and usually resent reverting to older, less efficient patterns. Despite these probabilities, the protocols and procedures imposed by the Argentine telex network have had a noticeable effect on improving the "information consciousness" of several of its users. Many are now more aware of their own role in the information transfer chain, and are in a position to encourage and support the further development of scientific and technical information resources and services within Argentina.

Development of Professional Change Agents within Argentina

The telex network project stimulated professional development by creating new positions within the library/information profession in Argentina and contributing to the diversification and improvement of professional skills among the participating Argentine librarians and information specialists. Of particular note is the professional development of the National Telex Network manager that was facilitated by the telex project. In addition to furthering her technical and management skills, the project provided her with teaching and consulting opportunities.* It also gave her the necessary professional experience to qualify as a participant in advanced education courses** sponsored by the

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* Consultations, and a seminar on the development of a national telex network, at invitation of CONACYT, in Mexico City; at invitation of the British Council, consultations with educators and universities in the United Kingdom on the organization of education and training courses in Argentina.

**Post Graduate Course for the Training of Specialists in Scientific Documentation and Information--at the Universities of Grenoble, Nancy and Paris, France--September 1974 - July 1975. (Designed for persons who are to assume responsibilities for the organization, development and administration of information services.)
Seminario Latinoamericano - Administración para Directivos de Sistemas de Información [Latin American Seminar on Administration (Techniques) for Managers of Information Systems], Mexico City, Mexico, 10-23 August, 1975.

UNISIST program, and to assume greater educational and managerial responsibilities in the further development of the Centro's scientific and technical information programs.

Serendipitous Benefits

Although not envisaged at the start of the project, there were a number of positive spinoffs of the project beneficial to the United States, including

1. An increase in the number of information items purchased by Argentina from the United States relative to those acquired from other countries;

2. Introduction of international telecommunication procedures and standards to U.S. participating libraries (none of which had used them previously);

3. Increased consciousness and greater appreciation by U.S. participating libraries of the advantages and costs of international communication via telex, as well as some of the problems (customs regulations, foreign exchange and currency devaluations, deposit accounts, etc.) in dealing with a country such as Argentina;

4. Establishment of similar telex agreements between the U.S. libraries and institutions in other countries (e.g., Georgia Tech and Simón Bolívar University in Caracas); and

5. Willingness of the Argentine network to assist the U.S. participating libraries in acquiring information from Argentina and other Latin American Countries.

RECOMMENDATIONS FOR THE NETWORK'S FURTHER DEVELOPMENT

A review of the telex network during the project period has shown that the "technology" of the network is functioning satisfactorily. To extend the benefits of the network and related activities, future efforts should be focused on institutional and human development. The following are posited as areas for future development.

Development of National Information Collections

From the cost data in Table Q-3, it is obvious that acquiring information from resources within Argentina is much less costly than from foreign sources. This becomes more important as the Argentine peso continues to be devalued relative to U.S. and other foreign currencies. Concern for national collections development, therefore, should coincide with overall future development of the network.

The network now provides a mechanism for rapidly updating information on the holdings of the participating Argentine libraries. The use of the network for improving the Catálogo Colectivo and other national bibliographic tools should be actively encouraged and extended. The network has also helped to identify both gaps and strengths in the collections of participating libraries. Consideration should be given to developing a national acquisitions policy, whereby participating libraries would be assigned responsibility for acquiring, and serving as "national" repositories for information in certain subject areas. Assignments should be made on the basis of strong collections already in existence (e.g., Universidad de Santa Fé--engineering; Universidad del Sur--mathematics and computers; Universidades de Rosario and Tucumán--good general collections).

Improvement of Services to Users

Geographic Access

There are still regions within Argentina that are not yet serviced by the network--notably Bariloche, Patagonia and the Salta area. Technology permitting,* possibilities for extending network services to users in these areas should be explored.

Subject Access

During the project period, the network concentrated primarily on providing access to information in the physical sciences and technology, and, in the later months, to social sciences and humanities information also. The network now should actively explore with the Pan American Health Organization's Regional Medical Library in São Paulo the possibilities of requesting information in medicine and allied fields via telex (generally available to Argentina by mail request and response only). As the network continues to establish contacts with libraries and institutions in other countries, additional unique or specialized collections will also be accessible.

Delivery of Services

Inefficiencies in local and national postal service often result in delays in deliveries of materials. Alternatives to the use of postal service (e.g., jitney deliveries on a periodic basis) should be explored, particularly for areas within a day's drive of the Centro. Another cause for delay is the need, at present, for the Centro to serve as the central processing station for all requests via the telex network. For the longer term, the possibility of establishing an interlibrary "referral system" for requests should be explored; however, the organization and operation of a "referral system" is much more complicated and costly than the system presently employed.

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* Some areas are not yet serviced by telex (no lines, or delays in acquiring equipment).

New Services

As a consequence of its participation in Unesco's UNISIST program, CONICET and its Centro de Documentación Científica are undertaking several activities--both national and regional in scope--with which the telex network can interface to provide new services. These activities include the national center for the International Serials Data System; a regional scientific translation center for Latin America; and a pilot project for an SDI (selective dissemination of information) service, from computer-based bibliographic data tapes, to users in Argentina and Latin America. Should this last project develop into an operating program, it will provide an opportunity to extend the use of the telex network to provide users with rapid and selective bibliographic access to information.

Development of Network Personnel and Institutional Relationships

The existence of the Telex Network Project has resulted in a new set of relationships between individuals and institutions; both are seeing each other in a new light. Network personnel have developed new attitudes, competencies, and skills. Future network activities and relationships must assure that these accomplishments are effectively utilized by the network. Opportunities must also be provided to ensure that network managers and other personnel have a shared sense of importance in the network and a forum to share problems and ideas. Network managers should meet at least once annually for such purposes.

As the network expands to include additional institutions, it should be recognized that they all cannot participate at the same level of activity at the same time. Allowances should be made for their time-phased integration; however, the network should always move toward standard practices--i.e., reducing differences in operation among participating libraries.

To guide its future development, a continuing advisory/policy group for the network should be established to identify further goals and objectives for the network and to explore ways to expand and improve its services.

Financing the Network

The activities suggested above will, in the short run, result in additional expenditures, rather than economies, for the network. However, continuing to acquire information at the present level from outside the country will also be more costly. Rate decreases in commercial international telex communication are not expected in the foreseeable future (although leased line rates <u>are</u> decreasing). Copying, service, and postage costs for material acquired outside Argentina certainly will increase--a reflection of general worldwide inflation. Argentina should strive, therfore, to meet the bulk of its scientific and technical information needs domestically. To do so will require the dedication, participation, and commitment of financial resources not only by CONICET but by those national agencies responsible for developing and funding academic and national libraries.

On a more immediate level, CONICET and the Centro should explore, through Unesco's UNISIST program, the possibility of establishing an internationally acceptable standard fee and coupon system for photocopy/microcopy services provided internationally. Such a system would go far to eliminate the problems of currency exchange, balance of payments, maintenance of deposit accounts, and the time-consuming individual negotiations with each library associated with the acquisition of information services in other countries.

International Cooperation

As outlined in Appendix E, the network has already made initial contacts with institutions in several countries. The potential for cooperation with many of these institutions exists; however, there are some practical problems, particularly in dealing with other Latin American countries, that must be overcome before such cooperation becomes a reality. Compared with library collections in Europe and the United States, collections of most Latin American countries are sparse and there is little information available about their noncurrent holdings. Furthermore, intercountry mail delivery within Latin America is slower and less reliable than intercontinental service. Finally, many Latin American institutions either do not have access to telex equipment, or if they do, have neither utilized it nor publicized its existence for purposes of interlibrary cooperation.

Efforts are under way to resolve some of these problems. With the encouragement of the Library and Archives Development Program of the Organization of American States and the programs of the Latin American Commission of the International Federation for Documentation, many countries in Latin America are automating and updating their union catalogues and other national bibliographic tools--an important first step toward the more efficient sharing of information resources on a regional basis. As it participates in these regional organizations, Argentina should encourage and support these activities.

Cooperation with institutions in other parts of the world rests primarily on the willingness of those institutions to accept the standards, procedures, and protocols used by the Argentine telex network. The successful cooperative relationships established during the pilot project with U.S. libraries and the National Science Library of Canada may serve to encourage other institutions to enter into similar agreements. This project might also serve as a model for similar projects to be carried out under the auspices of the UNISIST program.

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CHAPTER III

COMPUTER-BASED LITERATURE INFORMATION SERVICES PROJECT

BACKGROUND AND RATIONALE

The world's scientific and technical literature is growing at an exponential rate. It is necessary, therefore, that scientists and engineers use modern methods of information handling to assure that they are alerted to information they require, either via current awareness services or retrospective literature searches.

During the past several years, a number of computer-readable information data bases in several scientific disciplines, containing bibliographic, textual, and fact information, have become available. Many of the data bases are from the large scientific abstracting and indexing services such as Chemical Abstracts Services, Biological Abstracts, Engineering Index, etc. Concurrently, there have been developments in the technologies of information storage and retrieval related to the efficient use of these data bases.

As alternatives to developing indigenous bibliographic, indexing, and abstracting services to the world's scientific and technological literature, several countries have, instead, concentrated on acquiring these data bases and related technologies and developing the capabilities for processing them for their own special purposes. Regional or national scientific information dissemination centers, utilizing one or more such data bases, have been established in Canada, the United Kingdom, Sweden, and Germany. A number of such centers also exist in the United States. These centers have banded together in American and European Associations of Dissemination Centers (ASIDIC and EUSIDIC) to discuss common problems and to promote the more effective use of such data bases through research development and standardization.

OBJECTIVES OF THE PROJECT

At the time NAS - CONICET cooperative projects were being discussed, no such center existed anywhere in Latin America. A joint project, leading to the establishment of such a center in Argentina, was considered desirable for the following reasons:

1. It would provide Argentine scientists and engineers with more rapid, selective, and comprehensive information services;

2. It would facilitate the introduction, within Argentina, of modern methods of handling bibliographic information;

3. It would provide opportunities for training personnel in a scientific profession new to Argentina--the development, operation, and management of scientific information systems and services; and

4. As the first such center in Latin America, its services could be extended regionally to other Latin American countries.

The proposed center and its services were viewed as a logical adjunct to the Telex Network Project; as document access and delivery becomes more efficient, more effective methods for document identification seem warranted.

PROJECT DESCRIPTION

The joint project was directed toward the development of an Argentine information center that would provide computerized information services, initially in the field of chemistry, and ultimately in all areas of science and technology. Chemistry was chosen as the initial field in which to provide such services because

1. Chemical research and development in Argentina is diversified and well developed, relative to many other disciplines;

2. Chemists are generally more active users of information services than other groups of scientists;

3. Numerous data bases of chemical information exist; and

4. Chemical Abstracts Services in the United States offered an internship program, which could be utilized in the joint project.

The project had the following components:

1. An internship program in the United States to train the Argentine manager of the proposed center and service;

2. The establishment of a center in Argentina, with appropriate supporting staff and access to computer facilities;

3. The acquisition of chemical information data bases from Chemical Abstracts Service and other suppliers;

4. A U.S. consultant to help initiate information services in Argentina following the manager's internship program;

5. The establishment of formal links between the center and the Argentine chemist user communities; and

6. Appropriate short- and long-term funding by CONICET to support the development of the service.

PROJECT ACTIVITIES

At its meeting in August 1970, the Argentine-U.S. Panel on Scientific Information outlined more fully the steps to be taken in the implementation of the project (for details, see pp. 11 - 16 of Reference 5, Chapter I). The nature of the Chemical Abstracts Service internship, and the requirements for instigating it, were evaluated. Criteria for selection of the manager of the center were established. Initial services to be provided by the center, and the requisite data bases and computer technologies to provide such services were identified. Organizational and institutional requirements for the establishment of the center and its services were specified in detail.

Since U.S. financial assistance to the project was limited to partial support of the internship program, support of the U.S. consultant, and travel costs associated with the Advisory Panel, the completion and long-term success of the project was dependent upon adequate organizational and financial commitments by the Argentines; the U.S. panelists recommended a commitment of at least five years at the outset.

In the months immediately following the panel meeting, the Argentines were provided with additional financial and organizational information to assist them in preparing a detailed proposal for support of the project for submission to CONICET. Efforts were also undertaken by the Argentines to identify an appropriate candidate for manager of the center.

Following discussions in the spring of 1971 with several managers of computer-based information centers in the United States and Europe, some of whom were graduates of the CAS internship program, a training program at a U.S. scientific information center was proposed as a more suitable alternative to the CAS internship, for the following reasons:

1. The training program could be better geared to the needs of the Argentine manager, and provide insight and firsthand experience in the operation and management of such a center;

2. Experience in the use of several data bases, including CAS services, could be provided for;

3. A shorter, more intensive course could be developed, allowing the manager to return to Argentina sooner; and

4. Communications with operating information centers in the United States would be facilitated.

The Computer Search Center, Illinois Institute of Technology Research Institute (ITTRI) was interested in providing such a training program (see Appendix T).

This alternative was accepted by the Argentines at a meeting with NAS staff in Buenos Aires in July 1971. Preliminary efforts to identify a suitable candidate for the manager trainee had so far been unsuccessful, and it was decided at the July meeting to recruit candidates nationally, via a competitive examination, under the CONICET scholarship program. The Computer Center at the Faculty of Engineering at the University of Buenos Aires was identified as the probable location of the proposed center. A visit by an ITTRI consultant and an NAS staff member to Buenos Aires in October 1971 was also agreed upon, to assist ITTRI in developing a training program specifically adapted to Argentine priorities and objectives, to participate in the final selection of a trainee, and to work with the Argentines in the completion of the CONICET proposal, also delayed.

This meeting, though scheduled twice during the remainder of 1971, was ultimately cancelled when it became apparent that little or no action on the project had taken place in Argentina since July 1971. The NAS was reluctant to engage in further activities, including the involvement of ITTRI, until CONICET's commitment to the project could be assured.

During the early months of 1972, various attempts were made by NAS and AID staff, and the U.S. scientific attache in Buenos Aires, to determine the extent of this commitment. Finally, in May 1972, the NAS was informed of CONICET's desision: that for financial and organizational reasons, a major effort to develop a computerized science information service in Argentina was not possible at that time. The Academy and CONICET agreed, therefore, that the best alternative for continuing activities in science information under the cooperative agreement would be to expand and strengthen the telex network during an additional six-month period, and to undertake an evaluation of the network to provide a case study for other groups contemplating similar activities.

COMMENTS AND OBSERVATIONS

In retrospect, one can suggest a number of reasons for the difficulties encountered in the implementation of this project, as compared with the Telex Network Project. These may be categorized as follows.

Organizational Aspects

In contrast to the Telex Network Project, which was developed as an operating unit within CONICET, and whose physical location, place in an organizational hierarchy, managerial structure, and financing mechanism were therefore identified at the outset, the organization and managerial responsibility for the computerized information project was fractionated within Argentina. The tasks of developing a detailed program and budget for the center and service, the identification of candidates for the manager traineeship, and the provision of an appropriate physical location for the center were parcelled out among the

three Argentine panel members and their respective institutions. Although CONICET was expected to finance the project, no one institution or individual appeared to have overall responsibility for the project.

Nature of the Activity

Argentina, compared with the United States, is more institutionally and professionally stratified. The proposed project called for the creation, within Argentina, of a new professional occupation, a new type of institution, and a new service, whose demand was unknown. Criteria normally used by individuals in making a professional scientific career commitment, such as affiliation with recognized institutions and individuals, opportunities for research, and potential for advancement, could not be applied in this instance, since they were yet to be defined. These circumstances undoubtedly contributed to the initial failure to identify an appropriate candidate for the manager of the center and service. Whether the competitive examination as later proposed would have been successful in identifying a candidate remains problematical.

Although the proposed center was expected eventually to serve all the sciences, its initial services would be directed to the chemical profession only. Given the stringent economic situation in Argentina, it was apparently difficult to generate enthusiastic interest or support within CONICET for this activity, which in contrast to the immediacy and universality of service of the telex network, would take a number of years to develop, and which would, in the short term, benefit only one segment of the scientific community.

Financial Obligations and Commitments

The development of a detailed budget and program for the project, both responsive to the recommendations of the joint Panel and in keeping with the funding patterns of CONICET, presented some problems. It had been assumed initially that the general guidelines and cost estimates of the Panel, and the additional information and materials provided by the Academy would provide sufficient guidance to the Argentines for this task; we learned, in retrospect, that the proposed costs were in principle too high to be acceptable to CONICET. The services of a consultant in Argentina early on in the project might have clarified this situation and the project could have been scaled down accordingly.

The Panel also recommended a five-year budget and program for the project; however, CONICET traditionally supports few projects on a long-term basis other than basic research institutions. Because of inflationary economic conditions in Argentina, it was particularly difficult at that time to secure long-term financial commitments for a new activity, which, by its nature would require increased funding each year to assure its development, but whose probable use and value could not presently be determined with any accuracy.

CONICET therefore preferred to explore the possibility of short-term, external funding that would allow the experimental implementation of a service, on

a smaller scale than envisaged by the Argentine-U.S. Panel, in order to develop better data on the potential users and markets for such services. Such an opportunity was presented by the UNISIST-Canadian Pilot Project on Selective Dissemination of Information, in which Argentina is now participating (see Appendix B).

CHAPTER IV

POSTSCRIPT: 1973 - PRESENT

Since the termination of the NAS - CONICET Science Cooperation Program in December, 1972, a number of other information developments have occurred[1] in Argentina that are in keeping with the recommendations of the original 1969 workshop.

In March 1974 the Secretariat of the National Council for Science and Technology (CONACYT) of the Ministry of Culture and Education issued a resolution for the creation of a National System for Scientific and Technical Information (SNICYT). Under the aegis of CONACYT, an advisory center for the system was established, and a Committee for Management of SNICYT was appointed, including representatives of CONICET, the Geohelio-Physics Studies Commission, the National Institute for Agricultural Technology, and the National Institute for Industrial Technology. This group met several times, but beginning in September 1974 its activities and the development of SNICYT have been hampered by frequent changes in the leadership of CONACYT and the general economic and political conditions in Argentina.

Despite these national developments, CONICET and its Centro de Documentación Científica have actively collaborated with the UNISIST program in Unesco--in fact the country's participation in UNISIST activities is concentrated in the Centro. It serves as the Argentine National Center for the International Serials Data System (ISDS) and is establishing a regional scientific translations center for Latin America, also under the sponsorship of UNISIST. The Centro also provides the definitive Spanish translations, for use in Latin America, of UNISIST documents including guidelines, manuals and handbooks, and the quarterly UNISIST Newsletter distributed by Unesco and its Oficina de Ciencias para Americana Latina in Montevideo, Uruguay.

Through the Centro and other cooperating institutions, Argentina participates in the UNISIST pilot project in the selective dissemination of information (described in Appendix B) and is now providing information in biology and chemistry to over one hundred user groups throughout the country. Ms. Monica Allmand, formerly chief of the telex network and now head of education and training programs at the Centro, has participated in several UNISIST specialized courses for administrators and educators in information science, and, in the fall of 1975, began a series of lectures and seminars at the Centro for Argentine information specialists.

Argentina also serves as one of two Latin American countries (the other being Peru) on the eighteen-member UNISIST Steering Committee and is the only Latin American country represented on the Bureau of the Steering Committee. Sr. Ricardo Geitz, Head of the Centro who was also a member of the Argentine-U.S. Panel on Scientific Information, represents Argentina on these two bodies.*

Finally, the period since 1972 has seen increased contacts and cooperative activities in scientific and technical information between CONICET's Centro and counterpart institutions in its neighbors in the southern cone of Latin America--most notably the Consejo Investigación Científica in Montevideo, Uruguay, and the National Institution of Technology and Standardization in Asunción, Paraguay.

REFERENCES

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* The Steering Committee is responsible for guiding and supervising the planning and implementation of the UNISIST program, for assessing priorities among various projects, for reviewing the results achieved, for defining the basic areas requiring international cooperation, and for making recommendations on the future program. It meets once every two years. Its Bureau, which meets two or three times a year, acts for the Steering Committee in the interim.

APPENDIX A

U.S.-ARGENTINE PANEL ON SCIENTIFIC INFORMATION

Members*

United States

Mr. Melvin S. Day
Acting Assistant Administrator and
Deputy Assistant Administrator for
Technology Utilization
National Aeronautics and Space
Administration
400 Maryland Avenue
Washington, D.C. 20546

Dr. Vern M. Pings
Director, Kentucky-Ohio-Michigan
Regional Medical Library
Wayne State Medical Library
4325 Brush Street
Detroit, Michigan 48201

Dr. Fred A. Tate
Assistant Director
Chemical Abstracts Service
2540 Olentangy River Road
Columbus, Ohio 43210

Dr. Tate's alternate for the first
meeting of the Panel was:
Mr. Ralph O'Dette
The Chemical Abstracts Service
2540 Olentangy River Road
Columbus, Ohio 43210

NAS Staff Officer:

Miss Judith A. Werdel, Staff Officer
Commission on International Relations
National Academy of Sciences
2101 Constitution Avenue
Washington, D.C. 20418

Argentina

Dr. Jórge Comin
Department of Organic Chemistry
Faculty of Exact and Natural Sciences
University of Buenos Aires
Peru 222
Buenos Aires, Argentina

Mr. Ricardo A. Geitz, Head
Centro de Documentación Científica
Consejo Nacional de Investigaciones
Científicas y Técnicas (CONICET)
Moreno # 431
Buenos Aires, Argentina

Ing. Emilio H. Jáuregui
Director, Computer Center
Faculty of Engineering
University of Buenos Aires
Paseo Colon 850
Buenos Aires, Argentina

CONICET Staff Officer:

Prof. Federico M. Cross
Director for International Affairs
Consejo Nacional de Investigaciones
Científicas y Técnicas (CONICET)
Rivadavia 1917 - R.25
Buenos Aires, Argentina

*Affiliations shown are those current at the start of the project (August, 1970).

APPENDIX B

Description of UNISIST Pilot Project
To Establish SDI Services in Unesco Member States

Canadian Assistance in Establishing National SDI Services in Unesco Member States

UNISIST NEWSLETTER, Vol.1, no. 2, 1973, pp. 4-5

The Canadian Government has offered to assist, through the UNISIST programme, Unesco Member States who might wish to establish a national Selective Dissemination of Information system (SDI) along the lines of the CAN/SDI programme.

In fact, the Canadian Government, through the National Research Council/National Science Library (NRC/NSL), is prepared to provide the CAN/SDI software package, the staff expertise required and the training needed to establish a national SDI system in any interested Member State of Unesco.

The implementation of the CAN/SDI system in another country involves much more than simply the transfer of computer programmes. Because of the uniqueness of the system and its associated user training programme, it is essential that the staff of the NSL participate directly in the installation of the system. This participation would consist of the physical transfer of the CAN/SDI software packages, on site training of personnel responsible for manipulating the programme and implementing the SDI system, establishment of a user training programme (training of search editors) and guidance in developing essential literature resources.

This offer of the Canadian Government is made in support of the UNISIST programme. Preliminary negotiations with interested Member States will be done through Unesco before directly involving the Canadian NRC/NSL.

The installation of a national SDI service in a Member Country poses certain basic prerequisites of appropriate computer facilities, trained personnel and the back-up literature resources.

In summary, the requirements of the National centre would be:

(a) Computer: IBM 360/50 and up. OS/MTF, HASP programmes; minimum 150k; PL/1 and Assembler.

(b) Personnel - one programmer familiar with text manipulation and some knowledge of MARC formats; one librarian/information specialist with some SDI know-how; one clerk/keypuncher.

(c) The data bases to be searched.

(d) Resources - scientific and technical literature relevant to the Centre's areas of responsibility. Access to publications cited in the data base(s). Knowledge of the subject(s) covered by the data base(s).

The contribution of the NRC/NSL would be:

(a) CAN/SDI software package.

(b) One analyst/programmer to install software on Centre's computer and work with Centre's programmer. Implementation normally requires up to two weeks.

(c) One data base manager/search editor to work with the Centre's representative and instruct in the production use of CAN/SDI. This would relate to:

data base management and special characteristics of format;
profile construction and maintenance;
user training through seminars.

This phase of the work would entail up to three weeks residency.

The CAN/SDI is an information retrieval system operated to meet the information needs of scientists, researchers, psychologists, sociologists, economists, linguists, engineers, geologists, etc. The service scans regularly (weekly, biweekly, monthly) the current literature and provides to subscribers citations to relevant publications. More than 25,000 professional and trade journals in addition to books, proceedings, reports and patents are scanned.

The computer-based services of CAN/SDI include the following data sources with the tape service in parenthesis:

Science Citation and Source Index (SCI) from 2,400 journals in science and technology
Bibliography and Index of Geology (GEOREF)
Biological Abstracts (BA PREVIEWS)
Bioresearch Index (BA PREVIEWS)
Cataloguing and Indexing (CAIN from the U.S. National Agricultural Library)
Chemical Abstracts (Chemical Abstracts CONDENSATES)
Chemical Titles
Computers and Control Abstracts (INSPEC)
Electrical and Electronics Abstracts (INSPEC)
Engineering Index (COMPENDEX)
U.S. Government Reports Announcements (GRA)
MARC II (English language monographs catalogued by the U.S. Library of Congress)
Physics Abstracts (INSPEC)

In setting up an SDI service in a Member State, it would be suggested that not more than two data bases be searched during the first year against a maximum of 100 profiles. Much preliminary time would be needed on promotion, travelling, user education, profile writing, etc. A springboard is needed in one or two specialized areas from which experience can be gained, leading to the eventual addition of other data bases.

APPENDIX C

ARGENTINE INSTITUTIONS IN TELEX NETWORK

Date Equipment Installed/Joined Network	Name and Address	Local Managers/Operators, and Telex Numbers/Answerbacks
NATIONAL CENTER		
April 30, 1971	Centro de Documentacion Científica Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET) Moreno 431/33 BUENOS AIRES	Jefe Servicio Telex: 1971-Marzo 1974 Srta. Mónica Allmand. Marzo 1974- Sra. Silvia I. de Tomaso Operador:Sra. Gabriel Kunnemann de Sesti Telex No (390)122424 Answerback:AR CEDOC
UNIVERSITIES		
June 16, 1971	Biblioteca Universidad Nacional de Rosario Avda. Pellegrini 250 ROSARIO	Jefe Local:Sra.Martha Lucero Eseverri de Rodriguez. Operador:Sr. Rodolfo Ramaccioni Telex No (390)047817 Answerback:AR CIROS
June 28, 1971	Biblioteca Mayor Universidad Nacional de Córdoba Obíspo Trejo 242 CORDOBA	Jefe Local:Sr. Joaquin Garcia(Director de Biblioteca) Encargado:Srta. Angela Raggio. Operador:Srta.Coralia Oro. Telex No (390)046822 Answerback:AR BUCOR
August 19, 1971	Biblioteca Facultad de Ciencias Exactas Naturales y Agrimensura Universidad Nacional del Nordeste 9 de Julio 1449 Corrientes	Jefe Local:Srta.Ana Mercedes Vega(Directora de Biblioteca) Operador:Sra.Ana Elvira Herrmann de Pace Telex No (390)045821 Answerback:AR CINES

August 25, 1971	Biblioteca Central Universidad Nacional del Sur Avda. Alem 1253 BAHIA BLANCA	Jefe Local: Lic. Atilio Peralta Operadores: Sr. Franco Brugnettini y Srta. Raquel Lamarca Telex No (390) 015712 Answerback: AR DUJOR
August 26, 1971	Biblioteca Facultad de Ingeniería Química Universidad Nacional del Litoral Santiago del Estero 2829 SANTA FE	Jefe Local: Sr. José B. Schmidt Operador: Srta. Ana María Fanelli Telex No (390) 048853 Answerback: AR INLIT
October 7, 1971	Biblioteca Pública Universidad Nacional de La Plata Plaza Rocha 137 LA PLATA	Jefe Local: Sr. Julio Cesar Del Rivero Operadores: Sra. Elsa Marche de Castagnet y Sra. Marta Retyk de Jeison Telex No (390) 01351 Answerback: AR BULAP
February 8, 1972	Biblioteca Central Universidad Nacional de Tucuman Ayacucho 482 TUCUMAN	Jefe Local: Sra. María Cecilia Villagra de Guardia; Operador: Sr. Dalmiro Rojas Telex No (390) 044843 Answerback: AR BUTUC
February 16, 1974	Biblioteca Facultad de Ciencias Médicas Universidad Nacional de Cuyo Avda. Libertador 80 Centro Universitario MENDOZA	Jefe Local: Sra Graciela G. de Maure Operadores: Sra. Ana Maria G. de Vargas y Sra. Dori Cubas de Tramontana Telex No (390) 043867 Answerback: AR MEDOZ
1975	Biblioteca Comisión Nacional de Estudio Geo-Heliofísicos Avenida Mitra 3100 SAN MIGUEL	

Private telex network of the Instituto cooperates informally with Network

Biblioteca
Instituto Nacional de Vitivinicultura
San Martin 430
MENDOZA

The inclusion of additional institutions in the network is dependent on the provision of new communication lines/channels by ENTEL Argentina. Some of these additional institutions could be:

Central Atómico de Bariloche
Comisión Nacional de Energia Atómica
BARILOCHE

Comisión Nacional de Energia Atómica
Avenida Libertador 8250
BUENOS AIRES

INTA is studying the establishment of a network among agricultural research centers in Argentina

Biblioteca
Instituto Nacional de Tecnologia Agropecuria
Rivadavia 1439
BUENOS AIRES

Centro de Investigacion Documentaria
Instituto Nacional de Tecnologia Industrial
Casilla de Correo 1359
BUENOS AIRES

Universidad de Buenos Aires
Calle Viamonte 444
BUENOS AIRES

Universidad Tecnologica Nacional
Callao 660
BUENOS AIRES

Instituto de Farmacologia y Bromatologia
Martinez de Hoz y Pedriel
Villa Sarmiento
HAEDO (near BUENOS AIRES)

Universidad Nacional de Salta
SALTA

APPENDIX D

U.S. INSTITUTIONS COOPERATING WITH ARGENTINE TELEX NETWORK

Institution: John Crerar Library

Services to Network Began: May 1971

U.S. Contact: Mr. J. Walter Shelton
Assistant Librarian
Technical Services Division
John Crerar Library
35 West 33rd Street
Chicago, Illinois 61616

Telex Number: (910) 221-5131

Cost of Services:

Photoprints: (Xerox)	Basic charge per item -	$1.20
	Plus per page charge -	.15
Microfilm: (35 mm)	Basic charge per item -	$1.20
	Plus per page charge -	.05
Postage:	Airmail delivery billed at cost	
Telex Charges:	billed at cost (3.00 per minute; 66 words per minute)	

Accounting/Billing Procedures:

NAS maintains deposit account for CONICET, to which regular payments are made, and against which are charged costs for photo and microcopies, postage and telex messages to Argentina, on a monthly basis.

Bibliographic Tools Provided to Argentine Network:

Crerar List of Current Serials - 1973

Consolidated Index of Translations into English, (1952-1966). (compiled by the staff of the National Traslations Center, John Crerar Library, and published in January, 1970 by the Special Libraries Association).

Translations Register-Index - Published semi-monthly since 1967.

Special Arrangements

In the event the requested material is not in the Crerar Collection, Crerar will try to obtain material from other regional libraries (e.g., Center for Research Libraries, Chicago; Linda Hall Library, Kansas City, Missouri).

U.S. INSTITUTIONS COOPERATING WITH ARGENTINE TELEX NETWORK

Institution: National Agricultural Library (NAL)

Services to Network Began: March, 1972

U.S. Contact: Mrs. Lita Allen, Head
Utilization Section
National Agricultural Library
Beltsville, Maryland 20705

Telex Number: (710) 828-0506

Cost of Services:

Photoprints (xerox): $1.00 per 4 pages (minimum charge, $1.00; minimum unit of purchase, 4 pages)

Microfilm (35 mm): $1.00 per 30 pages (minimum charge, $1.00; minimum unit of purchase, 30 pages)

Postage: Airmail postage charges included in fees for photo and microcopies

Telex Charges (U.S.-Argentina): absorbed by NAL if kept to a "reasonable" level

Accounting/Billing Procedures:

Charges for photocopies and microfilm are determined per article unless request is for a series of articles in the same issue of periodical. Charges cover cost of searching, servicing, and air mail delivery to Argentina. NAS purchases NAL coupons (@ $1.00 per coupon), in bulk, which are held for CONICET at NAL (similar to a deposit account).

Bibliographic Tools Provided to Argentine Network:

List of Periodicals Indexed in the NAL Bibliography of Agriculture. February, 1968. (includes 4-5,000 journal titles.)

NAL Catalog - 1973 (computer-produced catalog of 15,500 titles held by the National Agricultural Library, including the serial holdings of the Library)

U.S. INSTITUTIONS COOPERATING WITH ARGENTINE TELEX NETWORK

Institution: Georgia Institute of Technology

Services to Network Began: September, 1972

U.S. Contact: Miss Ruth Hale, Head
Information Exchange Center
Price Gilbert Memorial Library
Georgia Institute of Technology
Atlanta, Georgia 30322

Telex Number: (810) 751-8369

Cost of Services:

Photoprints: Basic charge per item - $1.50
(xerox) Plus per page charge - .10

Microfilm: Basic charge per item - $1.50
(35 mm) Plus per page charge - .05

(microfilm copies not available for periodical literature; for reports, theses and monographs only)

Postage: Airmail delivery billed at cost ($3.00 per minute; 66 words/minute.

Telex Charges: billed at cost
(U.S.-Argentina)

Special Charges: verification fee of $2.00 - $5.00, depending on complexity, for incomplete or incorrect citations

Accounting/Billing Procedures:

NAS maintains deposit account for CONICET, to which regular payments are made, and against which are charged cost for photo and microcopies, postage and telex messages to Argentina, on a monthly basis.

Bibliographic Tools Provided to Argentine Network:

Serials Holdings, Georgia Institute of Technology Library - microfiche edition, updated monthly.

U.S. INSTITUTIONS COOPERATING WITH ARGENTINE TELEX NETWORK

Institution: Massachusetts Institute of Technology

Services to Network Began: September, 1972

U.S. Contact: Mr. Peter Scott
Microreproduction Labs
Room 14-0551
Massachusetts Institute of Technology
Cambridge, Mass. 02139

Telex Number: telex not available at MIT during project; cooperative relationship established because of excellent technical holdings (including theses) of MIT library.

Cost of Services:

Photoprints: (xerox)	Service charge (per item)	- $2.00
	Each page	- .20
Microfilm: (35 mm)	Service charge (per item)	- $2.00
	Per Exposure (2 pp.)	- .05

(Microfilms of dissertations, 35 mm. positive film, available at same price as above. If negative film required, there is an extra charge of $1.00 per order.)

Postage: Airmail delivery billed at cost

Telex Charges: n.a.

Accounting/Billing Procedures:

A deposit account established by NAS with MIT, through Central Accounting Department. NAS and CONICET must keep account of charges made against this account, and replenish when necessary. To assist in this process, Microreproduction Labs sends a pro-forma invoice with each order.

Bibliographic Tools Provided to Argentine Network:

Serials and Journals in the MIT Libraries - 1968.

Cumulative Book Index, MIT Libraries - 1969.

U.S. INSTITUTIONS COOPERATING WITH ARGENTINE TELEX NETWORK

Institution: Linda Hall Library

Services to Network Began: December, 1972

U.S. Contact: Mr. Thomas Gillies, Assistant Director
Linda Hall Library
5901 Cherry Street
Kansas City, Missouri 64110

Telex Number: (910) 771-2177

Cost of Services:

Photocopy: $.35 per page (8 1/2 x 11); $.40 per page (10 x 14)
minimum charge $1.25 per order

Microfilm: (35 mm) $.50 per 25 pages, or fraction thereof
handling charge $.50

Postage: Airmail delivery billed at cost

Telex Charges: billed at cost ($3.00 per minute; 66 words per minute) (U.S.-Argentina)

Accounting/Billing Procedures:

Bills sent with each order, but allow customers to accumulate, and pay on a periodic basis.

Bibliographic Tools Provided to Argentine Network:

Book Collection and Services of the Linda Hall Library - An Outline Guide, 1967.

Federal Documents (U.S.) Holdings in the Linda Hall Library, 1972. (preliminary).

Linda Hall Library Serials Holdings List - 1972; 1973.

APPENDIX E

Non-U.S. Institutions Contacted by the Argentine Telex Network re Cooperation

LATIN AMERICA

Brazil:
Instituto Brasileiro de Bibliografia e Documentacao (IBBD)
Avenida General Justo 171
20.000 Rio de Janeiro, G.G. ZC - 29
Brazil
Telex Number: 31-414

Chile:
Centro Nacional de Información y Documentación (CENID)
Comision Nacional de Investigación Cientifica y Tecnológica (CONICYT)
Casilla 297 - V
Santiago de Chile
Telex Number: ?

Colombia:
Fondo Colombiano de Investigaciones Cientificas y Proyectos Especiales "Francisco José de Caldas" - COLCIENCIAS
Calle 16 No. 9-64, Piso 2
Apartado aéreo 29828
Bogota D.E.
Colombia
Telex Number: ?

Mexico:
Consejo Nacional de Ciencia y Tecnologia
Insurgentes sur 1677 - 4° Piso
Mexico 20, D.F.
Mexico
Telex Number: 74-521

Paraguay:
Instituto Nacional de Tecnologia y Normalizacion
Avenida General Artigas y General Roa
Asuncion,
Paraguay
Telex Number: ?

Peru:
Centro Nacional de Informacion y Documentacion Cientifica y Tecnologica
Consejo Nacional de Investigacion
Avenida Javier Prado Oeste 682
P.O. Box 1991-1984
Lima 17, Peru
Telex Number: ?

Uruguay:
Consejo Nacional de Investigaciones Cientificas y Tecnicas
C. Correo 1869
Montevideo,
Uruguay
Telex Number: ?

LATIN AMERICA (continued)

Regional Organizations:

Biblioteca Regional de Medicine (BIREME)
Pan American Health Organization
Sao Paulo,
Brazil
Telex Number: 21-922

Oficina Regional de Ciencia y Tecnología para América Latina y el Caribe
Bulevar Artigas 1320
Casilla de Correo 859
Montevideo,
Uruguay
Telex Number: 32-877

OTHER COUNTRIES

Australia:

Commonwealth Scientific and Industrial Research Organization (CSIRO)
P.O. Box 89
East Melbourne, Victoria 3002
Australia
Telex Number: 30-326

Belgium:

Centre National de Documentation Scientifique and Technique (CNDST)
Bibliotheque Royal Albert 1
4 Boulevard de l'Empereur
Brussels 1
Belgium
Telex Number: 21-157

Canada:

National Science Library of the
Canadian Istitute for Scientific and Technical Information (CISTI)
National Research Council of Canada
Ottawa, Ontario K1A OS3
Canada
Telex Number: 013-3115

Denmark:

Dansk Central for Dokumentation
Danmarks Tekniske Bibliotek
Anker Engelunds Vej 1,
2800 Lyngby (Copenhagen)
Denmark
Telex Number: 5058

France:

Centre de Documentation
Centre National de la Recherche Scientifique
26 Rue Boyer
F-75971 Paris cedex 20
France
Telex Number 22-880

Great Britain: British Library Lending Division
Boston Spa, Wetherby
West Yorkshire LS23 7BQ
Great Britain
Telex Number: 557-381

Hungary: Hungarian Central Technical Library and Documentation Centre
H-1428
Budapest, P.O.B. 12
Hungary
Telex Number: 22-4944

India: Indian National Scientific Documentation Centre (INSDOC)
Hillside Road
New Delhi 12
India
Telex Number: 499

Israel: Center of Scientific and Technolgical Information
P.O.Box 20125
Tel-Aviv
Israel
Telex Number: 03-2332

Spain: Centro de Informacion y Documentacion del Patronato de Investigacion Cientifica y Technica "Juan de la Cierva"
Apartado 743
Madrid 6
Spain
Telex Number: 22628

Sweden: Library of the Royal Institute of Technology
P.O. Box S-10044
Stockholm,
Sweden
Telex Number: 10389

APPENDIX F

MANAGER'S TRAINING PROGRAM IN THE UNITED STATES AND CANADA

January 31 - February 20, 1971

Participating Institutions	Topics Covered
January 31 - February 6, 1971	
John Crerar Library 35 West 33rd Street Chicago, Illinois 60616 Contact: Mr. William S. Budington Director	Technical and organizational aspects of lending and photo-duplication operations, including: 1) processing, bibliographic and verification procedures for Interlibrary loans and photocopy requests; 2) operation of telex equipment, and 3) accounting and billing procedures 4) cooperative arrangements with other institutions Introduction to other services of Crerar, including: National translations Center, Research Information Service, Midwest Regional Medical Library, and to other information services in the Chicago area, e.g. : Center for Research Libraries; Illinois Institute of Technology Research Institute.
February 7 - 10, 1971	
National Science Library of Canada National Research Council Sussex Drive Ottawa 7, Ontario, Canada Contact: Dr. Jack E. Brown Director	overview of the national information services provided by the NSL, including lending, photo-duplication and telex operations, and international extensions of the services. Introduction to other national information services headquartered in Ottawa e.g. the Technical Information Service of the Canadian National Research Council.
February 11 - 13, 1971	
Kentucky-Ohio-Michigan Regional Medical Library Wayne State Medical Library 4325 Brush Street Detroit, Michigan 48201 Contact: Dr. Vern M. Pings, Director	organizational, personnel and management aspects of developing and administrating a cooperative library network, with particular emphasis on sociological and human aspects of networking. Administrative and technical publications relating to KOM Regional Medical Library Network provided to Argentine Network on a continuing basis (even beyond project period).

65

Februray 14 - 19, 1971

Library of Congress Washington, D. C. 20540 Contact: Dr. Jean Alloway	General library operations and services
National Agricultural Library Beltsville, Maryland 20705 Contact: Mr. Louise Davis	general library operations and services
National Library of Medicine Bethseda, Maryland 20014 Contact: Miss Mary Corning Assistant Director for International Programs	general library operations and services; national medical library network; programs of the developing Regional Medical Library in Sao Paulo, Brasil
National Technical Information Service U.S. Department of Commerce Springfield, Virginia 22151 Contact: Mr. Hubert E. Sauter, Director	general operations and services
Organization of American States Washington, D. C. 20006 Contacts: Miss Carmen Rovira Library Development Program and Mr. Alberto Sanchez-Crespro Unit of Technological Development	general introduction to OAS programs and staff concerned with the encouragement and support of library and information systems development in OAS member states.
Board on Science and Technology for International Development National Academy of Sciences 2101 Constitution Avenue, N.W. Washington, D. C. 20418 Contact: Ms. Judith A. Werdel Staff Officer	review of training program; and joint planning and scheduling of future activities in development of network.

APPENDIX G

AVAILABILITY AND CHARGES FOR DOMESTIC TELEX SERVICE IN ARGENTINA DURING PROJECT PERIOD

Availability of Service:	In urban centers of:
	Buenos Aires Bahia Blanca Cordoba La Plata Mar del Plata Mendoza Resistencia Rosario Santa Fe Tucoman
Installation Charges: (includes all necessary equipment for transmitting and receiving)	$253.00 (U.S.)
Monthly Service Charge: (rental and maintenance costs)	$ 19.50 (U.S.) - 1971 28.50 (U.S.) - 1972
Domestic Line Costs:	$ .023 (U.S.) per communication unit Number of units per message related to time and distance of transmittal. e. g. one minute of transmittal time between Buenos Aires and Cordoba is 8 units, or $ .184 (U.S.) $ .24 (U.S.) is average cost per one minute of transmittal time over total network.

APPENDIX H

INTERNATIONAL TELEX RATES BETWEEN ARGENTINA AND OTHER COUNTRIES

CIRCULAR NRO. 30

ENTEL ARGENTINA LE INFORMA MEDIANTE LA PRESENTE QUE CON MOTIVO DE LA NUEVA PARIDAD ENTRE EL VALOR DE NUESTRA MONEDA Y EL FRANCO ORO, A PARTIR DE LAS 00.00 HORAS DEL DIA 25-8-71, SE PONDRAN EN VIGENCIA LAS SIGUIENTES TARIFAS PARA EL SERVICIO TELEX INTERNACIONAL:

GRUPO I

PERIODO INICIAL (Initial Period) (3 MINUTOS O FRACCION) - first 3 minutes or fraction thereof)			PERIODO ADICIONAL (1 MINUTO O FRACCION)		
U$S	F.O.	$ (Argentine Peso)	U$S	F.O.	$
12	36,732	56,58	4	12,244	18,86

ADEN
AFRICA CENTRAL
AFRICA SUDOESTE
ALTO VOLTA T
ARABIA SAUDITA
ARGELIA
ASCENSION(ISLAS)
AUSTRALIA (2)
BAHAMAS
BAHARAIN
BOTSWANA
BRUNEI
BURUNDI
CAMERUN
CEYLAN
CHAD
CHINA NACIONALISTA (TAIWAN)
CONGO BRAZAVILLE
CONGO KINSHASA
COSTA DE MARFIL
COREA
DAHOMEY
DOHA
DUBAI
ETIOPIA
FIDJI (ISLAS)
FILIPINAS
GABON
GAMBIA
GHANA
GUAM
GUINEA
HONG KONG
INDIA
INDONESIA
IRAN
ISRAEL (1)
KENYA
KUWAIT
LESOTHO
LIBANO
LIBERIA
MALASIA
MALAVI
MALGACHE
MARRUECOS
MALI
MAURITANIA
MUSCAT
NIGER
NIGERIA
NUEVA ZELANDIA (2)
PAKISTAN
PAPUA
QATAR
REP.ARABE UNIDA
REUNION
RODESIA
RUANDA
RYUKYU (OKINAWA)
SAMOA AMERICANA
SENEGAL
SIERRA LEONA
SINGAPUR
SUDAFRICA
SUDAN
SUAZILANDIA
TANZANIA
TERRITORIO FRANCES DE LOS AFARS Y ISSAS
THAILANDIA
TIMOR
TOGO
TUNEZ
TURQUIA
UGANDA
VIETNAM
ZAMBIA

GRUPO II

PERIODO INICIAL (3 MINUTOS O FRACCION)			PERIODO ADICIONAL (1 MINUTO O FRACCION)		
U$S	F.O.	$	U$S	F.O.	$
9	27,549	42,42	3	9,183	14,14

ALEMANIA OCCIDENTAL
ALEMANIA ORIENTAL
ANDORRA
ANTIGUA
ANTILLAS FRANCESAS (MARTINICA)
ANTILLAS HOLANDESAS
AUSTRIA (1)
BARBADOS
BELGICA
BERMUDA
BOLIVIA
BRASIL
BULGARIA
CANADA (2)
CHECOESLOVAQUIA
CHIPRE
CIUDAD DEL VATICANO
COLOMBIA
COSTA RICA
DINAMARCA
DOMINICA
ECUADOR
EL SALVADOR
ESPAÑA
E.E.UU. (2) (UNITED STATES)
FAROE (ISLAS)
FINLANDIA (1)
FRANCIA (1)
GIBRALTAR
GRANADA
GRECIA
GROENLANDIA
GUATEMALA
GUAYANA FRANCESA
HAITI
HAWAI (2)
HOLANDA (1)
HONDURAS
HONDURAS BRITANICAS
HUNGRIA (1)
INGLATERRA
IRLANDA
ISLANDIA
ISLAS CANARIAS
ISLAS VIRGENES
ITALIA (1)
JAMAICA
JAPON
LIECHTENSTEIN
LUXEMBURGO
MALTA
MEJICO
MONACO
MONSERRAT
NICARAGUA
NORUEGA
PANAMA
PERU
POLONIA
PORTUGAL
PUERTO RICO (2)
REPUBLICA DOMINICANA
RUMANIA
RUSIA
SAINT KITTS
SAN VICENTE
SANTA LUCIA
SURINAM
SUECIA (1)
SUIZA (1)
TORTOLA
TRINIDAD- TOBAGO
VENEZUELA
YUGOESLAVIA

GRUPO III

PERIODO INICIAL (3 MINUTOS O FRACCION)			PERIODO ADICIONAL (1 MINUTO O FRACCION)		
U$S	F.O.	$	U$S	F.O.	$
6	18,366	28,29	2	6,122	9,43

CHILE

NOTES: Services to Countries marked (1) and (2) available on a one-minute minimum basis. These countries include: the continental United States, Hawaii, Alaska and Puerto Rico; most countries in Western Europe, but not England or Germany; Israel; Canada; and Australia and New Zealand. All other countries, including other Latin American Countries, have a 3-minute minimum.

04
122414AR CEDOC
122430AR AERAD

CIRCULAR NRO.33

ENTEL ARGENTINA LE INFORMA QUE CON MOTIVO DE LA NUEVA PARIDAD ENTRE EL VALOR DE NUESTRA MONEDA Y EL FRANCO ORO (1 F.O. = $ 1,63) A PARTIR DE LAS 00.00 HORAS DEL DIA 16/9/71, SE PONDRAN EN VIGENCIA LAS SIGUIENTES TARIFAS PARA EL SERVICIO TELEX INTERNACIONAL.

A LOS EFECTOS DE UBICAR LOS PAISES QUE SE ENCUENTRAN INCLUIDOS EN CADA UNO DE LOS GRUPOS, DEBERAN REMITIRSE A LA CIRCULAR NRO.30.

PERIODO INICIAL (3 MIN.O FRACCION)	PERIODO ADICIONAL (1 MIN. O FRACCION)
GRUPO I	
$ 59.88	$ 19.96
GRUPO II	
$ 44.91	$ 14.97
GRUPO III	
$ 29.94	$ 9.98

ING.J.A.SILBERMAN
JEFE SECCION RELACIONES CON USUARIOS
DIVISION RELACIONES INTERNACIONALES

V
122414AR CEDOCO
122414AR CEDOC

47817 AR CIROS
DAP GCC142 17-9-71

APPENDIX I

Telex Facilities Within Argentina

IFLA—IATUL

TELECODE AND TELEX ADDRESS BOOK

Telecode in 10 languages

and

International Telex Address Book

for

libraries and documentation centres;

2nd edition

Compiled by

Dr. A. COCKX,

National Centre for Scientific and Technical Documentation,
Royal Library, Brussels

and

Ing. G. SCHUURMANS STEKHOVEN,

Documentation Consultant, The Hague

with an introduction by

Dr. L. J. VAN DER WOLK,

President of the
International Association of Technological University Libraries (IATUL)

Prepared with the
financial aid of UNESCO and published by
IFLA/FIAB
1966

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CHAPTER II

TELECODE IN 10 LANGUAGES
ENGLISH

IFLA-IATUL TELECODE
1966 edition -

1. MANUAL for USE

1a. Attention!

LIBRARIANS as well as TELETYPISTS are invited firstly attentively to examine the *symbols* in this code, as well as the *texts* for which these symbols stand. As soon as one is reasonably used to these, the way is open for their regular and useful national and international use.

1b. Cost-saving + solution to the language barrier

A regular use of this telecode, composed by library and telex specialists, lessens considerably not only the *time of transmission* and *costs* of telex, but also practically eliminates the otherwise impossible *language difficulties.*

1c. Combination of symbols, numbers and titles

In the majority of telex messages, the simple combination of the *IFLA-IATUL symbols, request numbers* and *titles* of the publications will suffice. The IFLA symbols are designed in such a way that confusion with the official CCITT symbols, introduced for international telex traffic by the postal authorities (for example: EEE, MOM, OCC) does not arise. Both codes can therefore be combined without difficulty with the request numbers and titles of the publications.

First example

Complete message:	Same message in code:
Nr.423. Will you send us on loan: Teilhard de Chardin, P. Lettres de voyage 1923–1955. Paris 1962. Please answer before 15.5.1965.	ifla: nr.423 fsl: teilhard de chardin, p: lettres de voyage 1923–1955. paris 1962. tab 15.5.65.

Second example

Complete message:	Same message in code:
No.528. Will you please send us a microfiche of: Journal Am.Chem. Soc. 85 (1963) nr.19 p 2856–67, Yates, P. and M. J. Jorgenson. Photodimeric cage compounds, 1.	ifla: nr.528 fsd dmi: j.am.chem. soc. 85 (1963) nr 19 p 2856–67 yates, p and jorgenson, mj. photodimeric cage compounds, 1.

1d. Answers

The answers, on the basis of requests composed in the IFLA-IATUL Telecode, may also be handled in a similar coded manner.

Third example

Complete answer:	Same answer in code:
Re your enquiry number 1623 we have forwarded to you a photocopy.	ifla: byn 1623 qsd dap.

2. LIST of IFLA-IATUL-SYMBOLS

IFLA: The following is a text in the IFLA-IATUL Telecode:

1st group:

A	**General symbols**
ALB	Library
AMC	Thank you
ARR	Reminder
AUC	Union Catalogue

Other (CCITT-) teleprinter symbols with A:

ABF	Absent subscriber, office closed, CALLED MACHINE TURNED OFF.

2nd group:

B	**References for Inquiries**
BON	Re our inquiry (number)
BYN	Re your inquiry (number)

Other (CCITT-) teleprinter symbols with B:

BK	I cut off

3rd group:

D	**Categories of Documents**
DAO	Original
DAP	Photocopy
DAT	Translation
DAX	Xerocopy
DMC	Micro-opaque card
DMI	Microfiche
DMF	Microrollfilm

Other (CCITT-) teleprinter symbols with D:

DER	Out of order, CALLED MACHINE OUT OF SERVICE.

DF You are in communication with the called subscriber

4th group:

F **Requests for Action**
FBB Will you please locate
FIF Will you please inform us about
FLR Will you do a literature search about
FLT Will you please forward list of titles of
FRN Will you please renew
FRS Will you please reserve
FRT Please return following literature; renewal not possible
FSD Will you please send us
FSL Will you send us on loan

No CCITT- teleprinter symbols with F

5th group:

L **General answers**
LCO Your request is being attended to by us
LFW Your request is forwarded to
LSG We suggest to you

No CCITT- teleprinter symbols with L

6th group:

Q **Positive answers**
QBB Bibliographically located
QPR Present at
QRN We renewed for you until
QRS We reserved for you
QSD We forwarded to you
QSL We forwarded to you on loan

No CCITT- teleprinter symbols with Q

7th group:

T **Message with Time Factors**
TAB Please answer before
TMB Please send us material before
TXA No answer possible before appointed date

Other (CCITT-) teleprinter symbols with T:

TAX What are the charges?/The charge is
TEST MSG Please send a test message
THRU You are in communication with a telex position
TPR Teleprinter

8th group:

X **Negative Answers**
XBB Bibliographically not located
XCK Your inquiry is not OK, please correct
XCO Regret not possible to consider your request
XCT Your inquiry is not complete, please supplement
XNA Not available
XND We are not abie to deliver
XNT Temporarily not available
XOL Not for loan
XPN We do not possess
XPY We do not yet possess
XRN Renewal not possible
XRS Reservation not possible

No CCITT- teleprinter symbols with X

Official CCITT* Symbols Which May Automatically Appear During International Telex Communication:

MOM - operator has intervened to assist
NC - all circuits busy
NCH - Number changes
NP - No such number
N17 - Overseas answerbach not functioning
OCC - Called machine is busy

*CCITT - International Telegraph and Telephone Consultative Committee

This Committee studies, and issues recommendations on technical, operational and tariff questions concerning telegraphy...

NATIONAL ACADEMY OF SCIENCES
2101 CONSTITUTION AVENUE
WASHINGTON, D.C. 20418

OFFICE OF THE FOREIGN SECRETARY

December 27, 1972

MEMORANDUM

TO: U.S. Libraries Participating with the Argentine Scientific and Technical Information Telex Network

FROM: Judith A. Werdel

SUBJECT: New 3-Letter Telecodes Used by the Argentine Telex Network

The following 3-letter codes, and the messages they represent, are being used by the Argentine Telex Network in addition to the codes published in the IFLA-IATUL Telecode and Telex Address Book, 1966. The new codes all refer to specific reasons why a request cannot be filled. This information helps the Network to eliminate the possibility of [illegible]ative replies to future requests (codes 1-8) and to determine if and at what time to re-request items presently not available (codes 9-10).

We would appreciate it if you could use these codes, whenever possible, when responding by Telex to the Argentine Network.

1. XAA Missing Publication
2. XAB Volume incomplete - issue number requested is missing from collection
3. XAC Whole volume is missing from collection
4. XAD Title out of print - as of (give date and number)
5. XAE Whole volume is mislaid (a less permanent condition than (1-3)
6. XAF Issue requested is mislaid (a less permanent condition than (1-3)
7. XAG Not yet received
8. XAH Collection closed (give last volume and year)
9. XAI At the bindery (give date when it will be available)
10. XAJ On loan (give date when it will be available)

LISTA DE LAS ABREVIATURAS Y SIGLAS A UTILIZAR EN LOS MENSAJES

. TELEX

SIGLAS DE BIBLIOTECAS (CODES FOR ARGENTINE UNIVERSITY LIBRARIES)

ADC - Centro de Documentación Científica - Buenos Aires
DUN - Biblioteca Central - Universidad Nacional de La Plata - La Plata
EUN - Biblioteca Central - Universidad Nacional del Sur - Bahía Blanca
GCC - Biblioteca Facultad de Ciencias, Ingeniería y Arquitectura - Universidad Nacional de Rosario
HIG - Biblioteca de la Facultad de Ingeniería Química - Universidad Nacional del Litoral - Santa Fé
KEX - Biblioteca Facultad de Ciencias Exactas, Naturales y Agrimensura - Universidad Nacional del Nordeste - Corrientes
MUN - Biblioteca Mayor - Universidad Nacional de Córdoba - Córdoba
CMJ - Biblioteca de Facultad de Ciencias Médicas - Universidad Nacional de Cuyo
SUN - Biblioteca Central - Universidad Nacional de Tucumán - Tucumán

RESPONSABLES DEL PEDIDO (ORIGINATORS OF REQUESTS)

(I) - Facturación a nombre de la Institución
(P) - Facturación a nombre personal

TIPO DE MENSAJE (de acuerdo al telecódigo Ifla-Iatul) (TYPES OF MESSAGES)

AUC - Pedidos al catálogo colectivo
DMF - Pedidos de microfilms
DAP - Pedidos de copias electrostáticas

WORD/ROOT	ABBREVIATION
	A
AACHEN	NOT ABBREVIATED
AANTEEKENING-	AANTEEK
AARAU	NOT ABBREVIATED
AARBOG	AARB
AARBOK	AARB
AARDAPPELVERWERKING-	AARDAPPELVERWERK
AARDRIJKSKUND-	AARDRIJKSKD
AARGAUISCH-	AARGAU
AARLIG	AARL
AARSBERAETTELSE	AARSBERAETT
AARSBERETNING	AARSBERET
AARSBOK	AARSB
AARSHEFT-	AARSH
AARSSKRIFT	AARSSKR
ABDOMINAL	ABDOM
ABHANDLUNG-	ABH
ABNORMAL-	ABNORM
ABOENSIS	ABO
ABREGE	ABR
ABRIDGED	ABR
ABSCHRIFT	ABSCHR
ABSOLUT-	ABSOL
ABSOLYUT-	ABSOL
ABSORPTION	ABSORPT
ABSTAMMUNG	ABSTAMM
ABSTAMMUNGSLEHRE	ABSTAMMUNGSL
ABSTRACT-	ABSTR
ABTEILUNG-	ABT
ABWASSERTECHNI-	ABWASSERTECH
ABWASSERVERWERTUNG	ABWASSERVERWERT
ACADEMI-	ACAD
ACADEMY	ACAD
ACAROLOG-	ACAROL
ACCADEMI-	ACCAD
ACCELERAT-	ACCEL
ACCESSION-	ACCESS
ACCLIMAN-	ACCLIM
ACCLIMAT-	ACCLIM
ACCOUCHEUR	ACCOUCH
ACCOUNT	ACC
ACCOUNTANT	ACCOUNT
ACCOUNTING	ACCOUNT
ACCOUNTS	ACC
ACCRA	NOT ABBREVIATED
ACHIEVEMENT-	ACHIEV
ACLIMAC-	ACLIM
ACLIMAT-	ACLIM
ACOUSTI-	ACOUST
ACOUSTOELECTRONI-	ACOUSTOELECTRON
ACQUISITION-	ACQUIS
ACTA	NOT ABBREVIATED
ACTES	NOT ABBREVIATED
ACTINOTHERAP-	ACTINOTHER
ACTIVAT-	ACT
ACTIVE	ACT
ACTIVIT-	ACT
ACTUALI-	ACTUAL
ACUPUNCTURE	ACUPUNCT
ACUSTICA	ACUST
ADAPT-	ADAPT
ADDICTION	ADDICT
ADDIS ABABA	NOT ABBREVIATED
ADDITAMENTUM	ADDIT
ADDITION-	ADDIT
ADDITIVE-	ADDIT
ADELAIDE	NOT ABBREVIATED
ADEN	NOT ABBREVIATED
ADGEZI-	ADGEZ
ADHAESION	ADHAES
ADHESI-	ADHES
ADMINISTR-	ADM
ADMIRALTY	ADMIR
ADRIATIC-	ADRIAT
ADVANC-	ADV
ADVENTIST	ADVENT
ADVERSE	NOT ABBREVIATED
ADVERTIS-	ADVERT
ADVISER-	ADVIS
ADVISEUR-	ADVIS
ADVISOR-	ADVIS
ADVISORY GROUP FOR AERONAUTICAL RESEARCH AND DEVELOPMENT	A G A R D
AEHRODINAM-	AEHRODIN
AEHROGAZODINAM-	AEHROGAZODIN
AEHROGEDLOG-	AEHROGEOL
AEHROIONIZ-	AEHROIONIZ
AEHROLOG-	AEHROL
AEHRONOMI-	AEHRON
AEREEN	AEREEN
AERODYNAM-	AERODYN
AERODIONIZ-	AERODIONIZ
AEROLOG-	AEROL
AEROMEDICA-	AEROMED
AERONAUTI-	AERONAUT
AERONOM-	AERON
AEROPLANE	AEROPL

WORD/ROOT	ABBREVIATION
AEROSPACE	AEROSP
AEROSPATIAL-	AEROSP
AEROTECHNI-	AEROTECH
AEROTECNI-	AEROTEC
AEROTHERMOCHEMI-	AEROTHERMOCHEM
AERZTEBLATT	AERZTEBL
AERZTEVEREIN-	AERZTEVER
AERZTLICH-	AERZTL
AESTHETISCH-	AESTHET
AETIOLOG-	AETIOL
AFDEELING-	AFD
AFDELING-	AFD
AFFAIR-	AFF
AFHANDLING-	AFH
AFRICA-	AFR
AFRIKA-	AFR
AFRIQUE-	AFR
AGENCY	NOT ABBREVIATED
AGENT	NOT ABBREVIATED
AGGIORNAMENT-	AGGIORN
AGGLOMERAT-	AGGLOM
AGLOMERATS-	AGLOM
AGRAIRE	NOT ABBREVIATED
AGRALIA	AGRAL
AGRARI-	AGRAR
AGRARKOZGAZDASAG-	AGRARKOZGAZD
AGRARN-	AGRAR
AGRARTUDOMANY-	AGRARTUD
AGRARWISSENSCHAFT-	AGRARWISS
AGRESSOLOG-	AGRESSOL
AGRICOL-	AGRIC
AGRICULT-	AGRIC
AGRIKULTOR-	AGRIK
AGRIKULTUR	AGRIK
AGRIKULTURA	AGRIK
AGRIKULTURA	AGRIK
AGRIKULTURCHEMI-	AGRIKULTURCHEM
AGROBIOLOG-	AGROBIOL
AGROBOTAN-	AGROBOT
AGROCHEMI-	AGROCHEM
AGROCHIMI-	AGROCHIM
AGROGEOLOG-	AGROGEOL
AGROGRUNTOZNAVST-	AGROGRUNTOZN
AGROKEMI-	AGROKEM
AGROKHIMI-	AGROKHIM
AGROLESOMELIORA-	AGROLESOMELIOR
AGROLOGIQUE-	AGROL
AGROMELIORA-	AGROMELIOR
AGRONOM-	AGRON
AGROPECUARI-	AGROPECU
AGROPOCHVEN-	AGROPOCHV
AGROPOCHVOVEDEN-	AGROPOCHVOVED
AGROPROIZVODSTV-	AGROPROIZVOD
AGROQUIMI-	AGROQUIM
AGROTECHNI-	AGROTECH
AGROTECNI-	AGROTEC
AGROTEHNI-	AGROTEH
AGROTEKHNI-	AGROTEKH
AGRUMARI-	AGRUM
AGRUMICCLTUR-	AGRUMIC
AGRUMICULTUR-	AGRUMIC
AGRUPACION	AGRUP
AIKAKAUSKIRJA	AIKAK
AIKAKAUSLEHTI	AIKAK
AIRCRAFT	AIRCR
AKADEEM-	AKAD
AKADEM-	AKAD
AKATEMI-	AKAT
AKKLIMAT-	AKKLIM
AKLIMAT-	AKLIM
AKTIEBOLAG-	AB
AKTIENGESELLSCHAFT	AG
AKTIV-	AKT
AKTUAL-	AKTUAL
AKTUARIETIDSKRIFT-	AKTUARIETIDSKR
AKTUELLE-	AKTUEL
AKTYUBINSK-	AKTYUB
AKUSHER-	AKUSH
AKUSTI-	AKUST
ALABAMA	ALA
ALASKA	NOT ABBREVIATED
ALBANY	NOT ABBREVIATED
ALCHIMIST-	ALCHIM
ALCOHOLI-	ALCOHOL
ALCOOLI-	ALCOOL
ALEP	NOT ABBREVIATED
ALEPPO	NOT ABBREVIATED
ALERGOLOG-	ALERGOL
ALGEBRE	NOT ABBREVIATED
ALGEMEEN-	ALG
ALGEMEN-	ALG
ALGERI-	ALGER
ALGIERS	NOT ABBREVIATED
ALGOLOG-	ALGOL
ALGORITMICHESK-	ALGORITM
ALIMENTA-	ALIMENT
ALIMENTICI-	ALIMENT
ALIMENTOS	ALIMENT
ALKOHOLI-	ALKOHOL
ALLAMI	ALL
ALLATGYOGYASZAT-	ALLATGYOGY

from: International List of Periodical Title Word Abbreviations. Prepared for the UNISIST/ICSU Abstracting Working Group on Bibliographic Descriptions. Based on the American National Standards Committee (Z-39) National Clearing-House for Periodical Title Word Abbreviations - Word Abbreviation List. 1970.

APPENDIX K

COMPARISON OF MESSAGE FORMAT OF ARGENTINE TELEX NETWORK
AND U.S. MEDICAL LIBRARY NETWORK

FORMAT OF TELEX MESSAGES FROM THE CENTRO DE DOCUMENTACION CIENTIFICA
TO THE JOHN CRERAR LIBRARY, CHICAGO, ILLINOIS

JOHN CRERAR CG (John Crerar's Answerback)

122414AR CEDOC 30/6/71 (CONICET's "Here Is" code)

IFLA/IATUL 3-letter codes (DAP)

7234.6 BERL MUNCHENER TIERARZTL WOCHENSCHR 64(1951)70-9 WOLFFHUGEL K NUTRIA ALS WIRT ECHINOCOCCUS

7302.5 CLIN EXP IMMUNOL 7(1970)6 32- LEVIN A G PROD OF 19S AND 7S ANTIBODIES ...

CONICET's request number (for each item)

7637 REV NTT ELECTR COM LAB 15(1967)7-9 507-30 NODA K FREQUENCY MODULATORS USING ..

DMF

7352 ARCH HYDROBIOL 16(1926) WALTER C HYGROBATES DISJUNCTUS SINE...

7647.1 Z STRUCKY KTTIMII 11(1970)2 360- GLUSEV STRUCTURE OF OLEFINIC ACETYLENIC...

JOHN CRERAR CG (John Crerar's Answerback, signaling end of message)

Pedido realizado por el Centro de Documentación Científica a la John Crerar Library
(Request sent by the Scientific Documentation Center (CONICET) to John Crerar Library)

DAP - photocopy
DMF - microfilm

122414AR CEDOC (CONICET's answerback)

JOHN CRERAR CG 6/1/71 (John Crerar's "Here Is")

IFLA/IATUL 3-letter code — BYN DAP 7234.6 XND

7302.5 WILL BE SENT IN ONE WEEK

JOHN CRERAR CG (Crerar's "Here Is")

CONICET's request numbers. — 122414AR CEDOC (CONICET's Answerback, signaling end of message

Respuesta negativa de la John Crerar Library acerca de algunos items
(Negative response from John Crerar relating to these (above) items.

BYN - Re your inquiry
DAP - Photocopy
XND - We are not able to deliver

FORMATS OF TELEX REQUESTS ON ARGENTINE TELEX NETWORK, AND ON U.S. MEDICAL LIBRARIES NETWORK

Argentine Telex Network

one transmittal; five separate requests

```
JOHN CRERAR CG

122414AR CEDOC 30/6/71
DAP
7284.6 BERL MUNCHERER TIERARZTL WOCHENSCHR 64(1951)70-9 WOLFFHUGEL
K NUTRIA ALS WIRT ECHINOCOCCUS
7302.5 CLIN EXP IMMUNOL 7(1970)6 32- LEVIN A G PROD OF 19S AND
7S ANTIBODIES ...
7637 REV NTT ELECTR COM LAB 15(1967)7-9 507-30 NODA K FREQUENCY
MODULATORS USING ..
DMF
7352 ARCH HYDROBIOL 16(1926) WALTER C HYGROBATES DISJUNCTUS SINE...
7647.1 Z STRUCKY KTTIMII 11(1970)2 360- GLUSEV STRUCTURE OF OLEFINIC
ACETYLENIC...

JOHN CRERAR CG
```

U.S. Medical Libraries Network

one transmittal; two separate requests

```
NCBG WINSTON

ILLRQ 88  19/APR/66


INTERLIBRARY LOAN
DUKE UNIVERSITY MEDICAL CENTER LIBRARY
DURHAM, NORTH CAROLINA, 27706


DR. SAMUEL M. ATKINSON  RESIDENT  OB-GYN

NEW ZEALAND MEDICAL JOURNAL 59: (DEC) 1960
LILEY, A. W.: TECHNIQUES AND COMPLICATIONS OF AMNIOCENTESIS
   531-586.
VER: CIM 2:A-844, 1961
AUTHR: M. A. BROWN


REMARKS: WE LACK THIS VOLUME.


END ILLRQ 88
NCD-M DURHAM
MORE
                                spacing shortened
NCBG WINSTON

ILLRP 89  19/APR/66

YOUR ILLRN 27  18/APR/66: RENEWAL OF YOUR ILLRQ 12  3/APR/66
   OK 1 WEEK.

END ILLRP 89
NCD-M DURHAM
                          spacing shortened
END.
```

from: Bird, Warren. Teletypewriter Exchange System for Interlibrary Communication. July, 1969, p. 30.

APPENDIX L

EXAMPLES OF NETWORK RECORD KEEPING

1. TELEX LEDGER (PLANILLA TELEX)

In order to control the receipt and despatch of messages, it is necessary for each telex unit in the network to maintain a TELEX LEDGER with the following information:

1. Date of the transmission
2. To and From — To: When the message is sent to the Central Telex unit at the Centro in Buenos Aires;
   From: When the message is received from another library.
3. Code of the library initiating the message
4. Messages sent - state type and number of message
5. Messages received - state type and number of message
6. Number of the work order assigned internally - if different from message number
7. Operator - initials only

PLANILLA TELEX

(1) Fecha	(2) A y De	(3) Biblioteca	(4) Mensaje enviado	(5) Mensaje recibido	(6) Nro pedido	(7) oper.

2. TELEX REPORT OF TRANSACTIONS (INFORME MOVIMIENTO TELEX) - REGIONAL AND NATIONAL

In order to determine adequately the effectiveness of the Telex Network, it is necessary to maintain a register of detailed information on the transactions that occur. Statistical data should be gathered daily by the Regional Library Telex units (Biblioteca Cabecera Telex), through the use of the TELEX REPORT OF TRANSACTIONS (see copy of this form on the following page). One copy of this report should be sent at the end of each month to the Head Telex unit at the Centro de Documentacion Cientifica, Buenos Aires, to be included in the compilation of the national report of transactions.

Most of the data required for this report can be taken from the TELEX LEDGER, described previously.

For the purposes of tabulation, the following should be considered as individual transactions, and recorded accordingly:

1. each work or bibliographic citation for which a photocopy or microfilm is requested from the reprographic service;

2. each title and volume of journals, whose location is requested through the Catálogo Colectivo de Publicaciones Periodicas.

EXPLANATION OF THE TELEX REPORT OF TRANSACTIONS

A. Requests that are Sent Out

At the end of the day, the operator must fill in the TELEX LEDGER in the column corresonding to "messages sent". This information should also be noted in the corresponding box of the TELEX REPORT OF TRANSACTIONS.

a. Origin of the Message - It is of interest to know the origin of the request transmitted by Telex. Two cases may occur:

Users: - that is, all personal clients, libraries, or other institutions that direct the Regional Library Telex unit to transmit a request on their behalf via Telex;

Library: - all requests initiated directly by the Regional Library Telex unit itself.

This information must be taken at the end of the day directly from the telex messages before filing them.

b. Type of Requests - the tabulation of the number of requests for microfilms (DMF) and electrostatic copies (DAP) can be made from the TELEX LEDGER. As noted previously, request for each title and each volume of a periodical, made to the Catalogo Colectivo, should be considered as individual messages, and tabulated accordingly. Miscellaneous requests, other than those described above, should be recorded as Other.

B. Requests that are Received

This information can also be transferred from the "Messages Received" colume of the TELEX LEDGER to the TELEX REPORT of TRANSACTIONS.

a. Origin of the Message - there may be two cases:

Centro de Documentacion Cientifica - which, as the Head Unit in the Telex Network can make or refer a request that it has received and identified as being available at the library receiving the request, or in other libraries in the same city or region;

Other Libraries - e.g. all requests that are made directly between the libraries participating in the Network

This information may be taken from the TELEX LEDGER from the columns "From" and the code of the "Library"

b. Type of Requests - this information can also be taken from the RELEX LEDGER in accord with the codes that identify the type of requests (DMF, DAP, others).

3. ARCHIVAL RECORDS OF TELEX TRANSACTIONS TO BE MAINTAINED BY THE LIBRARY TELEX UNITS PARTICIPATING IN THE NETWORK

1. Messages sent by the Regional Library Telex units: in numerical order

2. Requests that are received from Users to be transmitted by Telex:

In numerical order:
Telex Message
Photocopy Orders
File of Requests

3. Messages received from other Libraries in the Network: by order of libraries, and within each, by numerical order.

INFORME MOVIMIENTO TELEX (TELEX REPORT OF TRANSACTIONS)

Biblioteca informante:

MES: Name of Month

(Days of month)		1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	TOTAL
A. Pedidos que se emiten			
a. Origen	Usuarios		
	Biblioteca		
b. Tipo de pedidos	Microfilms		
	Copias electrostáticas		
	Catálogo Colectivo Publicaciones Per.		
	Otros		
B. Pedidos que se reciben			
a. Origen	Centro de Documentación Científica		
	De otras Bibliotecas		
b. Tipo de pedidos	Microfilm		
	Copias electrostáticas		
	Otros		

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APPENDIX M

MANUAL DE OPERACIONES TELEX (texto resumido)

A. SOLICITUD DE PEDIDO

1. Código de la biblioteca (código answerback)

2. Tipo de mensaje, Sigla de la Biblioteca y Número de mensaje, Fecha

La definición del tipo de mensaje se hará en base al telecódigo de Ifla-Iatul.

La sigla de la biblioteca que envía el mensaje será tomada de las "nuevas siglas" del Catálogo Colectivo de Publicaciones Periódicas para uniformar las transmisiones a realizar a través del sistema telex.

El número de mensaje será correlativo para cualquier tipo de mensaje.

La fecha estará compuesta por el día (en números), mes (las tres primeras letras) y año (los dos últimos números), separados por barras. Ej.: 1/ABR/71

- Dejar tres espacios intermedios.

3. Cita bibliográfica completa

Esta cita deberá contar con los datos que siguen:

- Nombre de la publicación periódica - volumen - (año) - número - mes - primera página - última página - ilustraciones
- Autor
- Título del trabajo

En caso de tratarse de otro tipo de trabajo tales como Patentes, Informes, Trabajos de Conferencias, Congresos, y otras reuniones, Tesis, Monografías, capítulos de libros, dar la cita lo más completa que permita su identificación. 86

4. Verificación de la fuente

Se pedirá al usuario que proporcione la fuente donde ha verificado su pedido o, en caso contrario, se procurará efectuar la verificación en la biblioteca. En el mensaje se aclarará a continuación de VER:

5. Responsable del pedido

6. Observaciones

En el mensaje se aclararán las observaciones a continuación de OBS:

7. Fin del mensaje

Transmitir FIN más el tipo y número de mensaje.

Código answerback de la biblioteca a la cual se dirige el mensaje.

Dejar diez espacios intermedios para separar el próximo mensaje. Esto se debe a la necesidad de desglosar los mensajes y poder hacerlos circular o archivar.

CODIGO ANSWERBACK

TIPO DE MENSAJE BIBLIOTECA Y NUMERO DE MENSAJE FECHA

NOMBRE DE LA PUBLICACION PERIODICA - VOLUMEN (AÑO) NUMERO - MES - PRIMERA PAGINA - ULTIMA PAGINA - ILUSTRACIONES
AUTOR
TITULO DEL TRABAJO

VERIFICACION DE LA FUENTE

RESPONSABLE DEL PEDIDO
OBSERVACIONES

FIN DEL MENSAJE

DMF GCC 125 15/ABR/71

J OPTIMIZATION THEORY APPL 4(1969)NR 7 1-15
BALAKRISHAM, J.
ON A NEW COMPUTING TECHNIQUE IN OPTIMAL CONTROL

VER: SCI 1(1969) 1297

CUENTA NR 280 (I)
OBS: NO EXT

FIN DMF GCC 125 15/ABR/71

A.a. FORMULARIO DE RESPUESTA A SOLICITUD DE PEDIDO POR TELEX

En caso de tener que responder a la solicitud de pedido por cualquier motivo se procederá como se explica a continuación:

1. Código de la biblioteca (código answerback)

   - Dejar una línea intermedia

2. Sigla de la Biblioteca y Númro de mensaje Fecha

   - Dejar tres líneas intermedias

3. Referencia al mensaje de pedido

   Se hará dicha referencia con el código BYN (Ifla Iatul telecode: Referente a su consulta) y los datos del mensaje enviado por la biblioteca solicitante.

4. Razones por las que no se lo envía y si ha sido referido

   - Dejar tres líneas intermedias

5. Fin del mensaje

CODIGO ANSWERBACK
BIBLIOTECA Y NUMERO DE MENSAJE FECHA

REFERENCIA AL MENSAJE DE PEDIDO
RAZONES

FIN DE MENSAJE

(Dejar diez líneas intermedias)

Ej:

47817 AR CIROS

ADC171 16/ABR/71

BYN DMF GCC125 15/ABR/71
XBB LOCAL EXT RESPONDA SI INTERESA

FIN ADC171
47817 AR CIROS

(Dejar diez líneas intermedias)

B. PEDIDOS DE REFERENCIAS AL CATALOGO COLECTIVO DE PUBLICACIONES PERIODICAS

Cuando se necesite localizar en el Catálogo Colectivo una publicación periódica existente en el país, se prodrá efectuar la consulta al Centro de Documentación Científica de acuerdo al siguiente esquema:

1. Código de la biblioteca a la cual se dirige el mensaje - Código answerback

   - Dejar un espacio intermedio

2. Tipo de mensaje, Biblioteca y número de mensaje, Fecha

   - Dejar tres espacios intermedios

3. Citas bibliográficas

   - Dejar un espacio intermedio

4. Responsable del pedido

- Dejar tres espacios intermedios

5. Citas bibliográficas

   - Dejar un espacio intermedio

6. Responsable del pedido

   - Dejar tres espacios

.

.

Así sucesivamente con todos los pedidos similares.

7. Observaciones

   - Dejar tres espacios

8. Fin del mensaje

CODIGO ANSWERBACK DE LA BIBLIOTECA

TIPO DE MENSAJE BIBLIOTECA Y NUMERO DE MENSAJE FECHA

NOMBRE DE LAS PUB. PER. VOLUMEN (AÑO) MES DE C/UNA

RESPONSABLE

NOMBRE DE LAS PUB. PER. VOLUMEN (AÑO) MES DE C/UNA

RESPONSABLE

OBSERVACIONES

FIN DEL MENSAJE

(Dejar diez líneas intermedias)

Ej:
122414 AR CEDOC

AUC DUN 126 15/ABR/71

INMUNOCHEMISTRY 6(1969)
CHEMISTRY NEWSLETTER (AMERICAN CHEMICAL SOCIETY) 1951

DR HERNANDEZ

OBS:
FIN AUC DUN 126
122414 AR CEDOC

RESPUESTA A PEDIDO DE REFERENCIA AL CATALOGO COLECTIVO DE PUBLICACIONES PERIODICAS

1. Código de la biblioteca (código answerback)

   - Dejar una línea intermedia

2. Centro de Documentación Científica y Número de mensaje -Fecha

   - Dejar tres líneas intermedias

3. Referencia al mensaje de pedido

   - Dejar una línea intermedia

4. Referencia a la Biblioteca que posee la Publicación Periódica

5. Fin de mensaje

(Dejar diez líneas intermedias)

CODIGO ANSWERBACK

CENTRO DE DOCUMENTACION CIENTIFICA NUMERO DE MENSAJE FECHA

REFERENCIA AL MENSAJE DE PEDIDO

REFERENCIA A LA BIBLIOTECA QUE POSEA LA PUBLICACION

FIN DEL MENSAJE

(Dejar diez líneas intermedias)

Ej:
1351 AR BULAP

ADC 172 16/ABR/71

DR HERNANDEZ
FACULTAD DE FARMACIA Y BIOQUIMICA BUENOS AIRES
FACULTAD DE CIENCIAS NATURALES MUSEO LA PLATA

FIN ADC 172
1351 AR BULAP

INSTRUCCIONES GENERALES

1. Cada estación telex recibirá de la compañía ENTel un manual de operaciones que servirá al operador para tener conocimiento del modo de hacer la llamada y lograr la conexión. (Se adjunta una copia de las instrucciones de dicho manual).

2. El horario del Centro de Documentación Científica es de 12 a 20 horas, pero si se desea transmitir fuera de ese horario, los aparatos telex están equipados para recepción automática de mensajes.

3. Todas las transmisiones se realizarán en forma automática por cinta perforada por cuanto hay un ahorro de tiempo y pueden corregirse los errores sobre la cinta cuando se la está perforando.

4. Cada mensaje contará sólo con el pedido de un trabajo . Esto facilita la búsqueda del material una vez desglosados los mensajes.

5. Es muy importante dejar al final de cada mensaje diez interlíneas y también al finalizar una transmisión porque puede ocurrir que otra Biblioteca desee transmitir una respuesta e indefectiblemente deberán quedar diez espacios intermedios entre mensajes (nunca menos).

6. Se utilizarán las codificaciones del telecódigo Ifla-Iatul para todas las especificaciones técnicas. Este telecódigo ha sido creado para comunicaciones en todo el mundo y facilita enormemente la tarea disminuyendo el tiempo de transmisión y también el costo del mensaje.

7. Fin de transmisión. Una vez terminada la transmisión de mensajes escribir FIN. dejar diez espacios y cortar.

SISTEMA NACIONAL DE INVESTIGACION CIENTIFICA Y TECNICA

CIRCULAR Nro.: 1

Referente: Comunicaciones locales. Impulsos por minuto de transmisión por telex en relación a la distancia entre equipos.

De: Mónica Allmand

Fecha: 5 de Abril de 1971

Minutos	Distancia	Impulsos
1 minuto	hasta 100 Km	2 impulsos
1 "	de 100 a 200 Km.	3 "
1 "	de 200 a 300 Km	4 "
1 "	de 300 a 500 Km	6 "
1 "	de 500 a 750 Km	8 "
1 "	de 750 a 1.000 Km.	10 "
1 "	de 1.000 a 1.500 Km	13 "
1 "	de 1.500 a	16 "

Valor de cada impulso: 0,13 $

cc: Jefes Locales del Sistema

SISTEMA NACIONAL DE INFORMACION CIENTIFICA Y TECNICA

CIRCULAR Nro. 8
De: Mónica Allmand
Fecha: 20 de Agosto de 197.

1- Los equipos de Santa Fé y Corrientes ya han sido abonados por el CONICET y espero sean entregados y conectados en fecha cercana

SANTA FE	(048) 853	INLIT
CORRIENTES	(045) 821	CINES

2- Cuando se aclaren en los mensajes de respuesta las razones de negativa de envío de trabajos deberá hacerse en forma codificada como sigue. Estos datos serán útiles para el Servicio Telex para evitar la repetición de pedidos negados.

XAA Falta Publicación
XAB Volumen incompleto - Falta número
XAC Falta volumen completo
XAD Título dado de baja el (fecha y número
XAE Extraviado - volumen y año
XAF Extraviado número
XAG No recibido aún
XAH Colección cerrada el (volúmen y año)
XAI En encuadernación hasta (aclarar fecha)
XAJ En préstamo hasta (aclarar fecha)

3- Se adjunta la lista de Siglas de Identificación de las Bibliotecas cooperantes al Catálogo Colectivo de Publicaciones Periódicas para referirse a las mismas cuando deba aclararse dónde ha sido localizado ese título.

por ej.: LOCAL SAC

significa publicación localizada en Cat. Colectivo como existente en la Biblioteca de la Fac. de Arquitectura y Urbanismo, Universidad Nacional de Tucumán.

APPENDIX N-1

Union Lists Held by the Centro for the Identification of Periodical Titles in Science and Technology

International

1. Directory of Periodicals published by International Organizations, 3rd ed., Bruxelles, Union of International Associations, 1969. (FID Publication nr. 449)

2. International Bibliographie der Fachzeitschriften; World Guide to Periodicals, 5th ed., Munchen-Pullach, Verlag Dokumentation, 1967, 3 vols.

3. The Standard Periodical Directory, 3. ed., New York, Oxbridge Publishing Co., Inc., 1970.

4. Technical Journals for Industry, FID 415. (Series)

   Australia. Melbourne, CSIRO, 1968.
   Brazil. Rio de Janeiro, Instituto Brasileiro de Bibliografia e Documentacao, 1969
   Canada. Ottawa, Technical Information Service, National Research Council of Canada, 1967.
   Czechoslovakia. Prague, Central Office of Scientific, Technical and Economic Information, 1969.
   Denmark. Copenhagen, Danish Technical Information Service, 1967.
   Finland. Helsinki, Finnish Association for Documentation, 1967.
   France. Paris, Association Nationale de la Recherche Technique, 1969.
   Germany. Frankfurt/Main, Institut für Dokumentationswesen, 1970.
   Hungary. Budapest, Hungarian Central Technical Library and Documentation Center, 1968.
   Indonesia. Djakarta, Indonesian Scientific Documentation Center, 1968.
   Italy. Roma, Consiglio Nazionale delle Ricerche, 1967.
   Netherlands. /s.l./ Netherlands Institute for Information, Documentation and filing, /s.f./.
   Norway. Oslo, Norwegian Industries Development Association, 1968.
   Poland. Warsaw, Central Institute for Scientific, Technical and Economic Information, 1967.
   South Africa. Pretoria, South African Council for Scientific and Industrial Research, 1967.
   Sweden. Stockholm, Royal Swedish Academy of Engineering Sciences, 1969.
   Turkey. Ankara, Turkish National Library Bibliographic Institute, 1969.

5. World List of Scientific Periodicals, 1900-60, 4.ed., London, Butterworths, 1963. 3 vol.

6. World Medical Periodicals, 3.ed., London, World Medical Association, 1961.

Latin America
General

1. Guia de Publicaciones Periodicas Cientificas y Tecnicas de America Latina. Mexico, Union Panamericana, 1962.

Brasil

1. Periodicos Biomedicos; Titulos Correntes nas Bibliotecas de Sao Paulo en 1969. Sao Paulo, Faculdade de Medicina, Grupo de Bibliotecarios Biomedicos, 1969.

2. Catalogo Colectivo de Periodicos. Rio de Janeiro, Pertoleo Brasileire s.a., Centro de Pesquisas e Desenvelvimento, 1968.

3. Catalogo Colectivo de Periodicos do Estado de Sao Paulo, vol.1: Ciancias Medicas e Afines. Sao Paulo, Biblioteca Central, Universidade de Sao Paulo, 1968.

4. Catalogo Colectivo de Publicacoes Periodicas de Ciencia e Tecnologia. 2 vols. Rio de Janeiro, Instituto Brasileiro de Bibliografia e Documentacao. 1970-1971.

5. Catalogo de Publicacoes Periodicas, Universidade de Sao Paulo, Faculdade de Odontologia, Sao Paulo, 1969.

6. Catalogo des Publicacoes Periodicas Existentes na Biblioteca de Instituto Astronomico e Geofisico. Sao Paulo, Universidade de Sao Paulo, 1964.

Chile

1. Catalogo Colectivo Nacional de Publicaciones Periodicas. Santiago de Chile, Centro Nacional de Informacion y Documentacion, 1968.

Mexico

1. Catalogo Colectivo de Publicaciones Periodicas Existentes en Bibliotecas de la Republica Mexicana, Mexico, Instituto Nacional de Investigaciones Agricolas, 1968, 2 vols.

Uruguay

1. Catalogo Colectivo de Publicaciones Periodicas Recibidas en las Bibliotecas de la Universidad del Uruguay. Montevidio, National Library, Scientific, Technical and Economic Documentation Center, 1970-1971. 10,614 titles.

Venezuela

1. Catalogo de Publicaciones Periodicas, Existencias Diciembre 1964. Caracas, Instituto Venezolano de Investigaciones Cientificas, 1965.
   , existencias Diciembre 1966. , 1967.

Africa and Asia
Australia

1. Scientific Serials in Australian Libraries, Melbourne, C.S.I.R.O., 1967 - 3 vol. Actualizacion hojes movibles.

India

1. Catalogue of Serials in the Indian Agricultural Research Institute Library, March 1967. New Dehli, Indian National Scientific Documentation Centre, 1967. (Union Catalogue Series, 4).

2. Catalogue of Serials in the National Institute of Sciences of India, New Dehli, INSDOC, October 1968. (Union Catalogue Series, 9).

3. Directory of Indian Scientific Periodicals 1964. New Dehli, Indian National Scientific Documentation Centre, (c. 1964).

4. Regional Union Catalogue of Scientific Serials: Bangalore. Bangalore, INSDOC, June 1967. (Union Catalogue Series, 5).

5. Regional Union Catalogue of Scienfitic Serials: Dehli Medical Libraries. Dehli, INSDOC, November 1967. (Union Catalogue Series, 6).

6. Regional Union Catalogue of Scientific Serials: Varanasi. Varanasi, INSDOC, June 1968. (Union Catalogue Series, 7).

Israel

1. Directory Serials in Pure and Applied Science and Economics published in Israel. 2.ed., Tel-Aviv, Center of Scientific and Technological Information, 1967.

Japan

1. Directory of Japanese Scientific Periodicals, Tokyo, National Diet Library, 1967.

South Africa

1. Scientific and Technical Periodicals published in South Africa, Pretoria, Council for Scientific and Industrial Research, 1967 -.

Europe
Belgium

1. Catalogue Collectif Belge et Luxemburgeois des Periodiques etrangers en cours de Publication. Bruxelles, 1965, 2 vol.

Finland

1. Suomen Aikakauslehti-Indeski, Index to Finnish Periodicals, 1965-1966. Turku, Turku University Library, 1968.

France

1. Catalogue Collectif des Periodiques etrangers Scientific et Techniques. 4.ed., Paris, Ecole Nationale Superieure des Mines, 1966.

2. Repertoire de la Presse et des Publications Periodiques Francaises. 3.ed., Paris, Editions de la Documentation Française, 1964.

Germany

1. Gesamtverzeichnis der Zeitschriften und Serien in Bibliotheken der Bundesrepublik Deutschland einschliesslich Berlin (West). Union list of Serials in Libraries of the Federal Republic of Germany including Berlin (West). Neue und geänderte Titel seit 1971 mit Besitznachweisen. Stand: Januar 1973. Bearb. von der Staatsbibliothek Preussischer Kulturbesitz in Zusammenarbeit mit der Arbeitsstelle für Bibliothekstechnik. Berlin, 1973.

Ireland

1. Irish Association for Documentation and Information Services. Union List of Current Periodicals and Serials in Irish Libraries, 1972. 2 volumes. compiled by Sean Cooney and Donal O'Luanaigh. Dublin, National Library of Ireland. £ 4 Sterling.

Italy

1. Catalogo delle Publicazioni Periodiche Possedute dalla Biblioteca del CNR. Roma, Consiglio Nazionale delle Ricerche, 1963.

Netherlands

1. Centrale Catalogus van Periodieken en Seriewerken in Nederlandse Bibliotheken (CCP). Cumulatief Supplement. September 1972. 2 vols. 's-Gravenhage, Koninklijke Bibliotheek, 1972. (Union Catalogue of Periodicals and Serial Works in Dutch Libraries).

Portugal

1. Publicacoes Periodicas Estrangeiras Inventariadas nas Bibliotecas Portaguesas. Aditamento ao 1 volumen 1948: Ciencias Medicas. Lisboa, Centro de Documentacao Cientifica, 1960.

Spain

1. Catalogo de Revistas de las Bibliotecas del Patronato e Institutos, Madrid, Patronato Juan de la Cierva, 1962.

United Kingdom

1. British Union Catalogue of Periodicals, London, Butterworths, 1955-1958, 4 vol.

2. British Union Catalogue of Periodicals Incorporating World List of Scientific Periodicals, 1964- . Trimestral, acumulaciones anuales.

3. United Kingdom, National Lending Library for Science and Technology. Current Serials Received by the NNL, March 1971. London, Her Majesty's Stationery Office, 1971. 548 pp., 36,000 titles published in 100+ countries. £3.15 Sterling.

North America

Canada

1. Directory of Canadian Scientific and Technical Periodicals. Ottawa, National Science Library, National Research Council of Canada, 1969.

2. Union List of Scientific Serials in Canadian Libraries, 2.ed., Ottawa, National Science Library, National Research Council of Canada, 1967, 2 vols.

United States

1. Rarely held Scientific Serials in the Midwest Interlibrary Center. Chicago, Midwest Interlibrary Center, 1963. Suppl. 1-5, 1964-1968.

2. State University of New York, Central Office Computer Center. SUNY Union List of Serials, 4th ed. 2 volumes. Syracuse, New York, SUNY Union List Office, 307 Computer/Warehouse Building, Upstate Medical Center. 1972. 2,243 pp., 42,066 titles held by libraries of the State University of New York. $75.00 U.S. per set.

3. Ulrich's International Periodicals Directory, 11.ed. and suppl. New York, Bowker co., 1965-66, 2 vols. and suppl. 1967.

4. Union list of Serials, 3.ed., New York, Wilson, 1965, 5 vols.
New Serials Titles, 1950-60, Washington, Library of Congress, 1961.
_____, 1961-65, New York, Bowker, 1966.
_____, 1966-68, Washington, L.C., 1969.
_____, 1969- , Monthly, accumulated 3 times a year.

APPENDIX N-2

SCIENTIFIC AND TECHNICAL ABSTRACTING AND INDEXING SERVICES AVAILABLE TO THE LIBRARY TELEX UNITS PARTICIPATING IN THE NETWORK

Title of the Publication	Abbreviation
Applied science and technology index (U.S.)	Appl. Sci. Technol. Index
Biological abstracts (U.S.)	Biol. Abstr.
- Section A: General biology	Sec. A
- Section B: Basic medical sciences	Sec. B
- Section C: Microbiology, immunology and parasitology	Sec. C
- Section D: Plant science	Sec. D
- Section E: Animal science	Sec. E
- Bioresearch titles	Bioresearch titles
- B.A.S.I.C.	B.A.S.I.C.
Bibliography of agriculture (U.S.)	Bibphy. Agric.
Biological and agricultural index (U.K.)	Biol. Agric. Index
Botanische Zentralblatt (Ger.)	Bot. Zentbl.
Bulletin signalétique (whole series) (Fr.)	Bull. Signal.
Bulletin signalétique (some series) (Fr.)	Bull. Signal. (Algunas series)
Current contents (U.S.)	Curr. Cont.
Chemical abstracts (U.S.)	Chem. Abstr.
Chemisches Zentralblatt (Ger.)	Chem. Zentbl.
Electrical engineering abstracts (U.K.)	Electl. Engng. Abstr.
Engineering index (U.S.)	Engng. Index
Geophysical abstracts (U.S.)	Geophys. Abstr.
Index medicus (U.S.)	Index med.
Mathematical reviews (U.S.)	Mathl. Rev.
Meteorological and geoastrophysical abstracts (U.S.)	Met. Geoastrophy. Abstr.
Mineralogical abstracts (U.K.)	Mineral. Abstr.
Nuclear science abstracts (U.S.)	Nucl. Sci. Abstr.
Physics abstracts (U.K.)	Physics Abstr.
Psychological abstracts (U.S.)	Psychol. Abstr.
Science citation index (U.S.)	Sci. Cit. Index
Zoological record (U.K.)	Zool. Red.

DISTRIBUTION OF SCIENTIFIC AND TECHNICAL ABSTRACTING AND INDEXING SERVICES AMONG LIBRARIES PARTICIPATING IN THE NETWORK

1. UNIVERSIDAD NACIONAL DE LA PLATA

Biblioteca Facultad de agronomía - 12 FA

Biological abstracts
Bibliography of agriculture
Chemical abstracts

Biblioteca Facultad de ciencias veterinarias - 12 FCV

Biological abstracts

Biblioteca Facultad de ciencias exactas - 12 FCEx

Biological abstracts
Chemical abstracts
Current contents

Biblioteca Facultad ciencias médicas - 12 FCM

Biological abstracts
Chemical abstracts
Current contents
Index medicus
Psychological abstracts

Biblioteca Facultad de ciencias naturales y Musco - 12 MLP

Biological abstracts
- B.A.S.I.C.
Bulletin signalétique (algunas series)
Bibliography of agriculture
Geophysical abstracts
Mineralogical abstracts
Zoological record

Biblioteca de Laboratorio de ensayo de materiales e investigación tecnológica - 12 LEMIT

Chemical abstracts (2 series)

Biblioteca Facultad de ingeniería - 12 FI

Nuclear science abstracts
Physics abstracts

Biblioteca del Departamento de física - 12 DF

Physics abstracts

Biblioteca Observatorio astronómico - 12 OA

Geophysical abstracts
Mathematical reviews

2. UNIVERSIDAD NACIONAL DEL SUR (Bahia Blanca) - 12b

Biblioteca Central de la Universidad - 12b US

Chemical abstracts
Current contents
Electrical engineering abstracts
Engineering index
Physics abstracts

Biblioteca Instituto de edafología et hidrología - 12b IEH

Biological abstracts

Biblioteca Instituto de matemáticas - 12b IM

Bulletin signalétique (algunas series)
Mathematical reviews

3. UNIVERSIDAD NACIONAL DEL LITORAL (Sante Fe) - 13

Biblioteca Facultad de ingeniería química - 13 FIQ

Bulletin signalétique (todas las series)
Chemical abstracts
Engineering index
Mathematical reviews

4. UNIVERSIDAD NACIONAL DE ROSARIO (Rosario - Prov. de Sante Fe) - 13r

Biblioteca Facultad de ciencias médicas - 13r FCMe

Biological abstracts
Chemical abstracts
Current contents
Index medicus
Physics abstracts
Psychological abstracts

Biblioteca Facultad ciencias matemáticas - 13r FCMa

Engineering index
Mathematical reviews

Biblioteca Facultad de filosofia y letras - 13r FFL

Bulletin signalétique

5. UNIVERSIDAD NACIONAL DEL NORDESTE (Resistencia - Chaco) - 31

Biblioteca central de la Universidad - 31 DEU

Biological abstracts
Bibliography of agriculture

6. UNIVERSIDAD NACIONAL DE CORDOBA - 43

Biblioteca Mayoral de la Universidad - 43 UCo

Biological abstracts
Biological and agricultural index
Bulletin signalétique (todas las series)
Electrical engineering abstracts
Mathematical reviews
Physics abstracts

Biblioteca Facultad de ciencias médicas - 43 FCM

Biological abstracts
Bulletin signalétique (algunas series)
Index medicus

Biblioteca Facultad de ciencias exactas, fisicas y naturales - 43 FCEF

Biological abstracts
Mathematical reviews

Biblioteca Facultad de filosofía y humanidades - 43 FFH

Psychological abstracts

Biblioteca Facultad de odontología - 43 FO

Bulletin signalétique (algunas series)

Biblioteca Instituto de ciencias químicas - 43 ICQ

Chemical abstracts
Chemisches Zentralblatt

Biblioteca Instituto de biología celular - 43 IBC

Current contents

Biblioteca Instituto de matemáticas, astronomía y física - 43 IMAF

Mathematical reviews

UNIVERSIDAD NACIONAL DE CUYO - 51

Biblioteca Facultad de ciencias agrarias - 51 FCA

Biological abstracts
Biobliography of agriculture
Chemical abstracts
Meteorological and geophysical abstracts

Biblioteca Facultad de ciencias médicas - 51 FCM

Chemical abstracts
Index medicus
Psychological abstracts

8. UNIVERSIDAD NACIONAL DE TUCUMAN - 58

Biblioteca Central de la Universidad - 58 UT

Applied science and technology index
Bulletin signalétique (todas las series)

Biblioteca Facultad de agronomía y zootecnia - 58 FA

Biological abstracts
- Sec. A.
- Sec. B.
- Sec. C.
- Sec. D.
- Sec. E.
Bibliography of agriculture
Current contents

Biblioteca Facultad de bioquímica, química y farmacia - 58 FBQF

Biological abstracts
Chemical abstracts
Current contents

Biblioteca Facultad de ciencias exactas y tecnología - Instituto de física - 58 FCET-IM

Mathematical reviews
Physics abstracts

Biblioteca Fundación Instituto Miguel Lillo - 58 FIML

Biological abstracts
- Sec. A.
- Bio research titles
Bulletin signalétique (algunas series)
Bibliography of agriculture
Botanische Zentralblatt
Geophysical abstracts
Mineralogical abstracts
Zoological record

REPROGRAPHIC SERVICES AVAILABLE AT LIBRARIES PARTICIPATING IN THE NETWORK

UNIVERSIDAD NACIONAL DE LA PLATA

Biblioteca Fac. cs. económicas

Microfilms - microficha - fotocopia

Biblioteca Facultad cs. exactas

copias electrostáticas

Bca. Fac. Cs. Médicas

microfilms - copia electrostática

Bca. LEMIT

microfilms - copia electrostática

UNIVERSIDAD NACIONAL DEL SUR

Biblioteca Central de la Universidad

fotocopia

UNIVERSIDAD NACIONAL DEL LITORAL (Sante Fe)

Bca. Fac. Ingeniería Química

microfilm - copia electrostática

UNIVERSIDAD NACIONAL DE ROSARIO

Biblioteca Fac. Cs. Médicas

copia electrostática

UNIVERSIDAD NACIONAL DE CORDOBA

Bca. Fac. cs. económicas

microfilm - copia electrostática

Bca. Fac. Filosofía y humanidades

fotocopia - copia electrostática

Bca. Instituto cs. quimicas

microfilm - copia electrostática

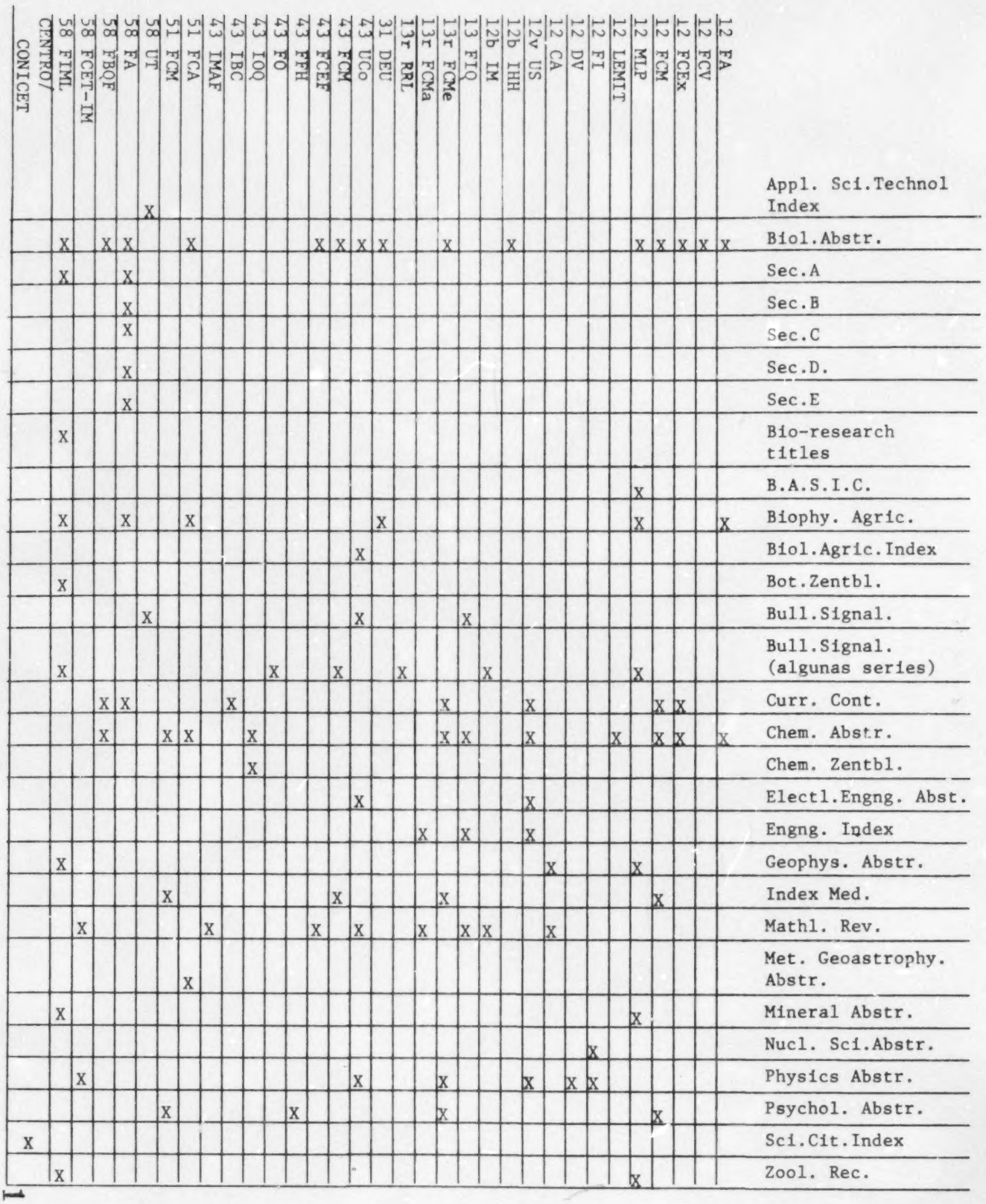
Bca. Mayor - Centro de documentacion

microfilm - microficha - fotocopia

UNIVERSIDAD NACIONAL DE TUCUMAN

Bca. Fundación inst. Miguel Lillo

microfilm - fotocopia - copia electrostática


CONICET
CENTRO/
58 FIML
58 FCET-IM
58 FBQF
58 FA
58 UT
51 FCM
51 FCA
43 IMAF
43 IBC
43 IOQ
43 FO
43 FFH
43 FCEF
43 FCM
43 UCo
31 DEU
13r RRL
13r FCMa
13r FCMe
13 FIQ
12b IM
12b IHH
12v US
12 CA
12 DV
12 FI
12 LEMIT
12 MLP
12 FCM
12 FCEx
12 FCV
12 FA
Appl. Sci.Technol Index
Biol.Abstr.
Sec.A
Sec.B
Sec.C
Sec.D.
Sec.E
Bio-research titles
B.A.S.I.C.
Biophy. Agric.
Biol.Agric.Index
Bot.Zentbl.
Bull.Signal.
Bull.Signal. (algunas series)
Curr. Cont.
Chem. Abstr.
Chem. Zentbl.
Electl.Engng. Abst.
Engng. Index
Geophys. Abstr.
Index Med.
Mathl. Rev.
Met. Geoastrophy. Abstr.
Mineral Abstr.
Nucl. Sci.Abstr.
Physics Abstr.
Psychol. Abstr.
Sci.Cit.Index
Zool. Rec.

APPENDIX O

Bibliographic Tools Provided to the Telex Network During the Project Period

Location Tools

1. American Chemical Society. Chemical Abstracts Service. CAS Source Index. Columbus, Ohio, 1976. Quarterly Supplements (for 1970, 1971, 1972).

   A directory of 1,000 primary journals most frequently cited in Chemical Abstracts. Includes bibliographic information on these journals, and cites their location in more than 400 libraries in 28 countries. Also includes information on discontinued journals, congress and symposium proceedings, and major national patent collections, world-wide.

See also the Union Lists, and other location tools, provided by the U.S. participating libraries, and listed in Appendix D.

Verification Tools

1. Koltay, Emery, Editor. Bowker Serials Bibliography - Supplement 1972. Ann Arbor, Michigan, R.R. Bowker and Co., January, 1973, 320 pp.

   This paperbound supplement updates the 14th edition of Ulrich's International Periodical Directory and the 2nd edition of the Irregular Serials and Annuals. Includes more than 6,500 magazines, handbooks, conference reports and yearbooks - some recently published; others just incorporated into Bowker's Serials Bibliography data base. Entries are alphabetically arranged by title under 240 subject headings and provide complete bibliographic information. All entries have been assigned country codes and ISBNs.

2. Koltay, Emery, Editor. Irregular Serials and Annuals - An International Directory. 2nd Edition. Ann Arbor, Michigan, R.R. Bowker and Co., June, 1972 , 1,130 pp.

   This bibliography brings together current data on 18,000 serials, annuals, continuations, proceedings of national and international conferences, and other publications issued irregularly or less frequently than twice a year. It is world-wide in scope; arrangement is by subject, with title and subject indexes. Designed as a companion to Ulrich's International Periodicals Directory, it includes a combined alphabetically-arranged index to every title entry in both volumes, with ISSNs for every periodical.

3. Koltay, Emery, Editor. New Serial Titles, 1950-1970 Cumulative. Ann Arbor, Michigan, R.R. Bowker and Co., December, 1973. 5 volume-set, 7,200 pp.

   Contains data on 260,000 serials which commenced publication after December 31, 1949. Also includes 200,000 new library holdings and 13,000 changes never before published. Entries are arranged alphabetically by title and provide: ISSN and country code; Dewey Decimal Classification Number; issuing body, place of publication; date of first publication, and if publication has ceased, date of last issue; and sympols for libraries (in U.S.) holding the serial, alphabetically listed with the year the holdings began.

Verification Tools (continued)

4. UNISIST/ICSU Abstracting Board. Working Group on Bibliographic Descriptions. International List of Periodical Title Word Abbreviations. Paris, ICSU/AB, 1970 .

   - Supplements to the World Abbreviation List, January - December, 1971: January - June, 1972.

   These lists and supplements formed the basis for the international standard issued in 1974 by the International Organization for Standardization: Documentation - International List of Periodical Title Word Abbreviations (ISO 833 - 1974).

Access and Acquisition Tools

1. Bird, Warren and Melvin, David Sken, Compilers. Library Telecommunications Directory. Canada - United States. Fourth Edition, Revised. Durham, North Carolina, Duke University Medical Center Library, October, 1971, 33 pages.

   - Updating Information, September, 1972, 5 pp.

2. Canadian Library Association. Directory of Interlibrary Loan Policies and Photocopying Services in Canadian Libraries. Ottawa, Canadian Library Association, 1973, 88 pp.

   Includes information on loan policies and photocopying services in over 300 Canadian libraries. Number of days required to deliver photocopies and prices charged are indicated.

3. Cockx, A. and Stekhoven, G. Schuurmans. IFLA-IATUL Telecode and Telex-Addressbook; Telecode in Ten Languages and International Telex-Address Book for Libraries and Documentation Centres. 2nd Edition. London, International Federation of Library Associations, 1966, 191 pp.

   Explanatory text in four languages: English, French, Spanish and Russian. and the Telecode (including the Manual for Use and List of Symbols) in ten languages(English, French, Spanish, Italian, Russian, German, Dutch Danish, Norwegian and Swedish). Telex numbers are listed by countries and localities; by libraries and documentation centers; and by answerback.

4. Nitecki, Joseph Z., Editor and Complier. Directory of Library Reprographic Services. 5th Edition. (Formerly titled Directory of Institutional Photocopying). Weston, Connecticut, Microform Review, Inc., 1973, 104 pp.

   Includes information on loan and photocopy services available from 243 libraries in the U.S. Charges, times required to fill requests , and information on ordering via telex are included.

APPENDIX P

INFORMATION CIRCULAR ON ARGENTINE TELEX NETWORK - DISTRIBUTED TO CURRENT AND POTENTIAL USERS

NATIONAL TELEX NETWORK FOR SCIENTIFIC AND TECHNICAL INFORMATION

The National Council of Scientific and Technical Research, aware of the need of the researcher to have efficient and rapid access to information, has improved the services which its Scientific Documentation Center offers to its users.

To accomplish this, the National System of Scientific and Technical Information has been created, which will rely on a National Telex Network, located in the libraries of 10 national universities and institutions such as CNEA, INTI, INTA, and centralized in the Scientific Documentation Center for international orders.

ADVANTAGES OF THE SYSTEM

Other countries have successfully used the telex as an efficient means of accessing and transmitting information. We have adopted it because we consider it to be the most rapid and effective system, whose messages are recorded in writing.

USUALLY, your request takes several days to reach us.

NOW, however, if you resort to the library which possesses telex equipment, when the operator transmits the message, our Scientific Documentation Center or any other library which has telex equipment receives it immediately.

If the work you request cannot be located in the country, the message is transmitted on the same day to the United States (in the future it will also be transmitted to Germany, Canada, England, France, Brazil, Chile, etc.). Instead of taking perhaps one week, your order arrives that day.

In this manner the transmission time of your request can be shortened.

FACILITIES

A 20% discount will be made on all the materials requested through the telex (during a period of 12 months).

Every request received through the telex will be given priority attention.

The cooperating services in the U. S. A. have agreed to give priority to our requests, sending the material in no more than 2 to 5 days from the receipt of the request.

The Library..... located in ..... is the center of the telex network in your region. You may resort to it in the same manner as you now do to the Center of Scientific Documentation.

1) Complete the REQUEST FOR PHOTOCOPIES with the corresponding information and your signature.

2) For each request, fill out on ORDER FORM.

3) Send or personally deliver the application and forms to the local telex center in your region.

4) If you are a regular user of the Scientific Documentation Center, add on the application next to your name, your center account number for identification in our records.

ALWAYS specify if you wish to receive the invoice in your name or in that of the institution.

The Scientific Documentation Center will deliver the material directly to your home address and in the least amount of time required to locate the material and reproduce it.

The Scientific Documentation Center and the above-mentioned library are at your service for additional information.

We hope that, given the advantages and facilities of this new system, you will use them and share with us any opinion valuable to the improvement of the service.

APPENDIX Q

COSTS ASSOCIATED WITH TELEX NETWORK PROJECT

Q - 1 Costs, and Sources of Support for Telex Network Facilities and Activities During the Project Period (August, 1970 - December, 1972)

	Argentina		U.S.
	Pesos	Dollars (U.S.)	Dollars
Telex Equipment	22,860		
Telex Monthly Rentals	36,040		
Telex Communication Costs	23,150		$ 340[1]
Services from U.S. Libraries[2]			8,910[2]
Bibliographic Tools			645
Travel			
Domestic	2,520		1,550
International		$4,500	1,500
Final Report			600
Subtotals	84,570 pesos	$4,500 U.S.	$13,545 U.S.
TOTAL		$12, 957 U.S.[3]	$13,545 U.S.

1) includes telex and postage costs
2) includes photocopy and microfilm services, verification, service, and handling charges, telex costs, and postage charges
3) based on exchange rate of 10 pesos to the dollar (in 1972)

Q - 2 Average Unit and Total Costs per Document/Article Supplied by the U.S. Participating Libraries During Project Period

	John Crerar Library	Georgia Tech	National Agricultural Library	MIT
1. Total Number Requests (Documents, Articles) Supplied (April, 1971 - November, 1972)	1630	102	297	2
2. Telex Cost - Total (Argentina - U.S.)	$1,151	$113	$287	--
3. Telex Cost - Total (U.S. - Argentina)	$ 277	$ 45	no charge	--
4. Telex Cost - Total (2 + 3)	$1,428	$158	$287	--
5. Average Telex Cost per Document/Article	$ .88	$ 1.55	$ .97	--
6. Postage Costs - Total (U.S.- Argentina)	$ 237	$ 44	no charge	$ 7.20
7. Copy Costs - Total	$4,300	$219	$311	$14.35
8. Service Costs - Total	no charge	$168	no charge	--
9. Total Document Costs (7 + 8)	$4,300	$387	$311	$14.35
10. Average Document Cost per Document/Article (9 ÷ 1)	$2.64	$3.79	$1.05	$7.18
11. Total Cost per Fufilled Request (4 + 6 + 9)	$5,965	$589	$598	$21.55
12. Average Cost per Fufilled Request (11 ÷ 1)	$3.65	$5.77	$2.01	$ 10.78
13. Overall Average Cost per Fufilled Request (excluding MIT requests)		$3.53		

Q - 3 Comparison of Average Unit Costs in Acquiring a 10-Page Article from Different Information Sources within Argentina and Internationally

Source	Telex cost per request	Postage	Cost of Article (xerox)	Cost of Article (microfilm)
U.S.	$.76	$.17	$2.73	$1.76
Buenos Aires	.16	.09	.30	.15
Provinces in Argentina	.32	.18	.57	.23
United Kingdom	.76[1)]	.17	1.20	1.20
France	.76[1)]	.17	1.00	1.00
Canada	.76[1)]	.17	1.00	1.00

1) Cost based on the assumption that libraries in these countries are willing to receive requests via telex in the abridged format presently used by the telex network. At present, only the National Science Library of Canada has agreed to do so.

APPENDIX R

DATA SHARING EFFECT OF ARGENTINE TELEX NETWORK ON INFORMATION SERVICES AND RESOURCES

R-1 Growth in Total Number of Requests (via Telex and Mail) for Information Received by the Centro from within Argentina, and Efficiency in Fulfilling Requests - Before and During the Telex Network Project Period.

Year	Requests Received	Requests Filled	% of Requests Filled
1969	5,844	5,299	90.7%
1970	5,912	5,519	93.4%
1971	8,649	7,719	89.3%
1972	12,174	11,720	96.3%
1973	14,769	12,711	90.8%

% increase in number of requests received between 1970 and 1972: 106%

R-2 Sources, within Argentina, of Requests for Information Received by the Centro

Year	Total # Requests	# from Nodes	% of Total	# from Capital	% of Total	# from Other Parts Argentina	% of Total
1969*	5,844	4,235	72.5%	799	13.7%	810	13,9%
1972	12,174	7,378	60/6%	1,557	12.9%	3,239	26.6%
% increase, 1969-1972		74%		95%		300%	

* Breakdown of data unavailable for 1970, but since total number of requests received in 1969 and 1970 is relatively constant (see R-1), distribution of request in 1970 also considered constant.

R-3 Number of Requests from Major Cities in Argentina Received by the Centro

City/Area	1969 # Requests	1969 % of Total	1972 # Requests	1972 % of Total
Capital	799	13.7%	1557	12.8%
La Plata*	580	9.9%	715	5.8%
Bahia Blanca*	174	3.0%	812	6.7%
Corrientes*	245	4.2%	215	1.8%
Cordoba*	683	11.6%	1631	13.4%
Mendoza*	339	5.8%	264	2.2%
Tucuman*	463	7.9%	700	5.6%
Rosario*	186	3.2%	2062	16.9%
Santa Fe*	1565	26.8%	979	8.4%
Mar del Plata	101	1.7%	387	3.2%
Rest of Argentina	709	12.1%	2852	23.4%
Total Requests	5844		12,174	

R-4 Growth in Requests for Information Among Members of the Network

Year	Requests Between Nodal Libraries *,#	Requests Between Centro and Nodal Libraries*,#
pre-1971	no data	no data
June-Dec., 1971	58	349
1972	249	1165

*requests sent by telex only; mail requests not included
includes data for 5 provincial nodes only; Tucoman, Corrientes and Mendoza not included.

Note: The data, if plotted on a monthly basis, also shows a steadily increasing growth in the number of requests exchanged among the network members.

R-5 Impact of Network on Requests for Information to Centro from Non-Argentine Users

Year	Requests from Latin America	Requests from United States	Requests from Other Countries	Total
1969	252	1	243	495
1970	346	3	320	669
1971	485	2	893	1380
1972	411	1	339	750

R-6 Telex Traffic within Argentine Telex Network

	April -December 1971 # of Requests	1972 # of Requests	1973 # of Requests
From Network Nodes to Centro	1318	4836	6221
From Centro to Network Nodes	349	1165	725
From Centro to International Sources	978	2437	2216
Total	2615	8438	9162

R-7 Types of Information Requested via Telex During Project Period

	April - December 1971	January - November 1972
Requests Received by the Centre from Members of the Network		
- for Microfilm copies	753	1196
- for Photocopies	519	3135
- for Catalogo Colectivo	45	382
- Other	1	5
Requests Sent by Centro to Other Libraries (National and International)		
- for Microfilm copies	922	2330
- for Photocopies	375	1077

R-8 Growth in Number of Information Items Acquired (e.g. Requests Fufilled) by Centro, from National and International Sources.

Year	Total Number Items Acquired	Items Acquired Nationally	Items Acquired Internationally	% Items Acquired Internationally
1969	5,299	3,793	1,506	28.4%
1970	5,519	3,873	1,646	29.8%
1971	7,719	5,755	1,964	25.4%
1972	11,720	7,626	4,094	34.9%

R-9 Changes in Sources of Information, Acquired by Centro, From Resources Within Argentina and Internationally.

Year	Total Information Items Acquired	Acquired in Buenos Aires		Acquired in Provinces		Acquired Internationally	
		#	%	#	%	#	%
1970	5,519	3713	67.2%	160	2.9%	1646	29.8%
1972	11,720	6957	59.4%	669	5.7%	4094	34.9%

R-10 Changes in International Suppliers of Information to the Argentine Network

Year	Number of Information Items Supplied by Other Countries					
	U.S.	France	UK	Other	Total	U.S. as % of Total
1969	214	1095	78	119	1506	14.2%
1970	168	1202	81	195	1646	10.2%
1971	754	857	212	141	1964	38.4%
1972	1303	633	402	1756	4094	31.8%

R- 11 Growth in Use of U.S. Information Resources

Year	Total Items Supplied via Centro	Items Supplied by U.S.	% Supplied by U.S.	Number of U.S. Institutions Used
1969	5,299	214	4%	18
1970	5,519	168	3%	18
1971	7,719	754	9.8%	1 (Crerar)
1972	11,720	1303	11.1%	10

R-12 Number of International Requests via Telex Filled by North American Libraries During Project Period

Library	Requests Received	Requests Filled	% Filled
John Crerar Library	2382	1624	68%
National Agricultural Library	459	297	65%
Georgia Institute of Technology	118	96	82%
National Science Library (Canada)	12	10	83%

R-13 Growth in Number of Accounts of Users Served by Eight Nodal Libraries in Telex Network During Project Period.

Year	Number of Users (Includes bith Institutional & Individual)	
	"Habituales" (with Accounts)	"No Habituales"
pre-1971	no data	no data
1971	19	147
1972	31	343
% increase	63%	133%

R-14 Average Times for Transactions in Acquiring Information via the Argentine Telex Network

For Documents Requested/Received from International Sources:

Transaction			Via Telex	
	Document Received	Negative Response	Document Received	Negative Response
For Documents Requested and/or Received from International Sources:				
Request from Province to Centro	7 days	7 days	1 day	1 day
Request from Centro to U.S.	7 days	7 days	0 days *	0 days *
Response from U.S. to Centro	14 days	7 days	7 days	3 days **
Response from Centro to Province	7 days	7 days	7 days	0 days *
Total	35 days	28 days	14 days	4 days
For Documents Requested and/or Received from National (Argentine) Sources:				
Request from Province to Centro	7 days	7 days	1 day	1 day
Locate Material in Buenos Aires; or	3.5 days	3.5 days	1.5 days	0 days *
Request from Centro to Provinces and	7 days	7 days	0 days*	0 days *
Provinces to Centro	28 days	28 days	7 days	days *
Forward Document from Centro to Provinces	7 days	7 days	7 days	0 days*
Total (from BA)	24.5 days	24.5 days	9.5 days	2 days
Total (from Province)	49 days	49 days	15 days	2 days

* same day response
** negative responses are batched.

APPENDIX S

USERS' RESPONSES TO QUESTIONS ON ARGENTINE TELEX SERVICE

1. How did you learn of the existence of the Telex Service?

The following mechanisms for learning about the new service were identified:

-- from announcements sent to me by the Centro
-- through a friend who works in the office of the Rector of the University
-- through information sent the staff in charge of the Service in our university
-- through an internal memorandum from the dean of our Faculty
-- through one of my professors, who had used the Service with favorable results
-- through a colleague in Buenos Aires
-- through a communique from the Federation of Chemical Engineers
-- through information distributed by CONICET
-- as a member of a regional commission of CONICET
-- through radio and TV advertising and other written advertisement
-- through the reference service of the Library
-- through a letter distributed by the university to potential users
-- through a presentation at the FID Latin American Commission, Lima, September, 1971
-- through a notice in a journal
-- from a lecture by the Director of the Central Library.

2. In what way was the Telex Service useful in your work?

3. Have you noticed improvements in the speed and quantity of service since the telex network was installed?

The following comments are representative of the comments received from 35 individual and departmental users, serviced by seven of the libraries participating in the network:

a clinical psychologist:

...the service is really very useful and has proved very efficient in my investigative activities..problems that arrive are solved very quickly...

a hematologist, and Director of an Institute of Medical Research:

...it facilitated the obtaining of scientific information for my job in a really surprising way...

a professor in the Faculty of Philosophy, Arts and Letters:

...it has provided me with valuable information for my job - articles in publications which are impossible to obtain in my city...I also found

editions of out-of-print books in other Universities in the country... Before the service was established I could not obtain this type of information except through personal friends in other Universities in the country or abroad. However, the service now provides extensive help, and its efficiency is readily appreciated. It is the best aid in our research...

an engineer, Institute of Physiography and Faculty of Science and Engineering:

...it was useful because it allowed me to receive publications that before were almost inaccessible...helped me in the guidance of my research work ...the interest and efficiency of the Telex Service staff is obvious; it is pleasant for users to request materials; we are very well treated...

an engineering professor, Department of Chemistry and Technology:

...the information provided for research and consultation is simply indispensable...the difference in efficiency with the new service is really surprising...

an engineering professor in the Department of Geocartography, School of Science and Engineering:

...for efficient research work, the greatest possible bibliography available is needed. The Telex Service satisfies that need...information is arriving faster and more efficiently.

an engineering student:

...it provided me with important scientific material which I could not obtain locally, and helped me in completing my final projects...I can't compare the situation before and after the Service, since I have used it from the beginning. However, my observations are that it is more efficient, and it is the most economical means of obtaining information, and avoiding trips outside the city - which saves time and money. Further suggestions - try to obtain, if requested, photocopies of orders placed abroad; decrease the cost of orders placed abroad; and try to speed up the work when orders must come from abroad.

a research pathologist, and instructor in School of Biochemical Sciences:

...the telex service satisfied all my requests...there has been a recent increase in the rapidity and efficiency with which my orders have been received.

a research physiologist in a School of Medicine:

...period of time between orders and arrival of copies of articles decreased considerably!

a scientist (a new user):

...solves my problems of obtaining information nonexistent in my city... have noticed improvement in speed in obtaining information, although my last requests have not yet been met...

a scientist (discipline unstated):

...with few exceptions I was able to obtain articles rather quickly - the staff in charge of the Telex operation has been very cooperative in cases of delay; I estimate that there has been a positive change (in service) noticeable especially when the mail does not operate under normal conditions.

an infrequent user (discipline unstated):

...the service is of little use, my request took a long time...before it was slow but sure, now it is faster but not too sure; I did not receive some orders.

an economist, Faculty of Economic Sciences:

...before the Service, we had to wait between 15-20 days to obtain material which was in Buenos Aires. Now we get it in 8 days...

an engineering student:

...useful in helping to compile material, and obtain quick answers for research projects...being a new user, I found the efficiency and answers to be normal...

a biochemist, and associate professor:

...before the Service there were delays of two or three months to receive information; presently the delay is only 15 days...

an engineer, Department of Chemistry and Chemical Engineering:

...I have noticed favorable changes...on the average, orders that used to take six weeks now take two...the efficient handling of orders prevents their loss...

APPENDIX T

PROJECT SUGGESTION FOR A TRAINING PROGRAM FOR INFORMATION CENTER OPERATION AND INSTALLATION OF SOFTWARE SYSTEM

Project Suggestion No. IITRI-71-138

TRAINING PROGRAM FOR INFORMATION
CENTER OPERATION AND INSTALLATION
OF SOFTWARE SYSTEM

Prepared by

Martha E. Williams and
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IIT Research Institute
10 W. 35th Street
Chicago, Illinois 60616

June 29, 1971

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ABSTRACT

The Information Sciences section of IIT Research Institute suggests a two-phase program for the training of an Argentine national in the operation of a computer-based information center and the installation of Selective Dissemination of Information (SDI) software, that was developed at IITRI, in an Argentinian information center. The training will cover both technical and operation aspects of the information center and will take place at IITRI. The software installation will take place in Argentina and cover (1) instruction of appropriate Argentinian computer operators, programmers systems personnel and profile writers in use of the IITRI software, (2) delivery of software package, and (3) adjustment of software to the particular IBM 360 or 370 installation.

TRAINING PROGRAM FOR INFORMATION CENTER
OPERATION AND INSTALLATION OF SOFTWARE SYSTEM

1. INTRODUCTION

The National Academy of Sciences (NAS) and the Agency for International Development (AID), working through the Argentine-United States Panel on Scientific Information have provided a grant to the Argentinian National Council of Scientific and Technical Research (CNICT) to: (1) establish a TELEX system linking scientific libraries in Argentina in order to share resources and also to contact the U.S. via the TELEX network to obtain otherwise unobtainable photocopies from libraries here, and (2) develop a computer-based information service using Chemical Abstracts Service (CAS) data bases initially, with future expansion to data bases in other disciplines.

IIT Research Institute (IITRI) is pleased to submit this Project Suggestion for a two-phase instructional and installation program aimed at providing the training and computer software necessary to set up a complete operating center in a foreign country within a minimal time span at a considerable savings in developmental costs. IITRI has been operating the Computer Search Center since 1968, providing Selective Dissemination of Information (SDI) services and retrospective searches; and using data bases prepared by Chemical Abstracts Service, Biosciences Information Service (BIOSIS) and Engineering Index (EI). We have extensive knowledge of the data bases and the techniques involved in formulating questions for retrieval of

desired information therefrom. Further, we have developed one set of modular programs used for searching these and many other data bases. Through use of pre- and post-processors for various data bases, the search program is general to all. The programs are written in the compiler language PL/1, and thus are immediately and easily transferable to any computer with a PL/1 compiler and certain basic parameters.

IITRI is therefore in a unique position to offer both the training for operation of a computer-based information center and the software needed to begin operation. We feel that an operating center can be established in not more than nine months, with obvious benefits in terms of rapidity of setup and minimal developmental costs. This Project Suggestion is presented in two phases, Training and Program Installation. The cost for Phase I would be approximately $10,000 and the cost for Phase II would be approximately $20,000.

2. PHASE I - TRAINING FOR OPERATION OF AN INFORMATION CENTER

2.1 Qualifications of Trainee

The person to be trained in the operation and management of the information center must have a wide range of capabilities. Those to be most highly stressed are an understanding of chemical information and the information needs of the chemists who will be the users of the system. A familiarity with computers and computer programming is desirable, but the trainee does not have to be a specialist in this area. A good command of spoken English is an absolutely essential requirement.

The prime responsibility of the trainee, after completion of the training period, will be to set up and run a viable computer search center using one or more of the CAS data bases. To this end, managerial and information transfer skills are of equal importance with technical expertise in chemistry and/or computer science. The trainee will observe and take part in the operations of IITRI's Computer Search Center, and thus must have the qualifications, including good command of English, to understand the complete operational system. Similarly, he must have the knowledge and capability to transfer the technology to his center.

2.2 Assignments

The trainee will become involved in all facets of the operation of IITRI's Computer Search Center. The staff members will provide personal instruction in the tasks that they are performing as well as supplying relevant research material and conducting formal workshop-type training sessions. The trainee will be enrolled as an attendee in the Workshop* that is conducted within the time frame of the traineeship. Evaluations, criticisms and recommendations will be made regarding performance in each of the four specific areas of assignment.

2.2.1 User Liaison and Internal Marketing

The first assignment will be concerned with the relationship between the Center and its users. Whether the services of a center are to be used internally or sold externally, it is mandatory

*IITRI's Computer Search Center conducts Workshops on Computer Retrieval of Chemical and Biological Information on a regular basis.

that the center convince the potential users of the value and usefulness of the service. The various steps involved include: preparation of promotional materials (brochures etc), first contact with a potential user, and continued maintenance of a user's question. Stress will be placed upon the necessity of speaking to a potential user in his own terms and relating the services of the center to his needs.

2.2.2 Profile Development

The second assigment will be the acquisition of the techniques of profile development. The various tools or user aids that IITRI has developed for analysis of data bases such as CAS Condensates will be explained. These user aids are:

- o Search Manuals
- o Frequency Lists
- o KLIC Indexes
- o Truncation Guide

The trainee will become proficient in the process of developing good search profiles. To write a good profile the trainee must have a thorough understanding of the following:

- o User's requirements
- o System capabilities
- o Data base contents

2.2.3 System Design

The third assignment will entail familiarization with the design parameters and methods for using the IITRI SDI Software. Since the system computer programs are written in PL/1, a high-level compiler language, it is possible to explain the overall design and even specific techniques used without the requirement for a detailed knowledge of the operation of a computer. The trainee will achieve a sufficient degree of knowledge about the system to allow him to discuss it comfortably and help in explaining it to his computer support staff in the subsequent installation phase.

2.2.4 Center Management

The final area of concern will be that of the operational aspects of managing a center. The types of records to be kept, level of staffing for various tasks, cost accounting and similar procedures will be covered. The Computer Search Center will make available for study at IITRI those non-proprietary statistics of day-to-day operational details that may be of instructional value to the trainee. He may trace the historical development of the center and observe the manner in which techniques were developed for management thereof.

3. PHASE II - SDI SOFTWARE INSTALLATION

The second phase of the program will be the installation of the IITRI SDI software at the foreign Center, including training in use of the system. A brief summary of features is given below:

3.1 System Features

The features listed below have been proved through two and a half years of use of the software, using many different computer configurations.

Installation independence

Modularity

Rapid installation

Demonstrated reliability

Flexibility with respect to

Ease of interface to other systems peripherals

3.2 Software Features

The features given below have been incorporated into the IITRI SDI software to provide a complete user-oriented package for provision of SDI services from any of several data bases.

Multi-data base capability

Uniform profile construction

Full truncation

Full Boolean logic

Nested logic

Redundancy removal

Sort options

Print options

Cumulative and non cumulative weighting

Term grouping for logic

Term aggregation

Feedback mechanism

Fully formatted output

3.3 Installation Service Features

The installation of the software will be performed at the foreign center with little or no program adjustment. Other installations have been made rapidly and easily. We already have experience with the installation of the software at other locations. Features that recommend the IITRI installation service are:

Training of systems personnel, operators, profile coordinators and users

Supervision of production runs

Years of experience with data base

Availability of consultation

3.4 User Aids

The following user aids have been developed by IITRI to assist in matching queries to the content of the data base.

Truncation Guide

Search Manual

Key-letter in-Context Index for Condensates

Frequency lists for Condensates

4. PROGRAM ADMINISTRATION

The traineeship portion of the program, Phase I, will be carried out at IIT Research Institute in Chicago and will require six months of elapsed time. Office space and working materials will be provided by IITRI. Accommodations, living expenses, etc. will be the responsibility of the trainee. The software installation portion of the program, Phase II, will be carried out in Argentina and will require up to three months elapsed time.

The program will be carried out within the Information Sciences section of IITRI under the supervision of Martha E. Williams, Manager.

5. CONCLUSION

We are happy to have had the opportunity to present this project suggestion, and look forward to participating in the joint Argentine-U.S. venture to increase the availability of information.

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